

# STAMIGA

FORMAT

The complete package for Atari ST and Commodore Amiga owners

## GRABBED!

PUT YOURSELF  
IN THE PICTURE  
WITH A VIDEO DIGITISER

## GOING ON LINE



MODEMS,  
BULLETIN  
BOARDS  
AND THE  
WORLD OF  
COMMS  
EXPLAINED

### ■ ARCADE CREATOR

\$750 - the revolutionary 0-4-Y games system.

### ■ ANIMATED AMIGAS

Winners from the Edinburgh Amiga  
animation competition

### ■ THE 68000 AT LARGE

010, 020, 030 and 040 - what they're doing  
and where they're going

### ■ STARTING OUT IN MIDI

An MIA's guide to what goes where

## STARGLIDER 2



■ FASTER  
■ FLASHIER  
■ FILLED 3D

Out on  
ST and Amiga

# DATEL ELECTRONICS



## ANIMA PRO SAMPLER STUDIO

- [illegible]

[Home](#)
[Products](#)
[Services](#)
[About Us](#)
[Contact Us](#)



Age Group	Percentage
18-24	~10%
25-34	~35%
35-44	~25%
45-54	~20%
55-64	~15%
65-74	~10%
75-84	~5%
85+	~2%

**10. replaced (the Google Maps the road)**  
 always goes to 100% (always) to  
 see the road's new road.

**TABLE 1**

- It is a **very** **small** **invertebrate**.
- It **usually** **survives** **up** **to** **1000** **years**.
- They **are** **not** **found** **in** **freshwater**.
- **Known** **examples** **are** **trilobites**.
- **Land** **and** **sea** **reptiles**.
- **Reptiles** **are** **invertebrates** **in** **the** **past**.



### ■ ENVIRONMENTAL STORAGE SOLUTIONS

- 1999, 2000, 2001, 2002, 2003, 2004, 2005, 2006, 2007, 2008, 2009, 2010, 2011, 2012, 2013, 2014, 2015, 2016, 2017, 2018, 2019, 2020, 2021, 2022, 2023, 2024, 2025, 2026, 2027, 2028, 2029, 2030, 2031, 2032, 2033, 2034, 2035, 2036, 2037, 2038, 2039, 2040, 2041, 2042, 2043, 2044, 2045, 2046, 2047, 2048, 2049, 2050, 2051, 2052, 2053, 2054, 2055, 2056, 2057, 2058, 2059, 2060, 2061, 2062, 2063, 2064, 2065, 2066, 2067, 2068, 2069, 2070, 2071, 2072, 2073, 2074, 2075, 2076, 2077, 2078, 2079, 2080, 2081, 2082, 2083, 2084, 2085, 2086, 2087, 2088, 2089, 2090, 2091, 2092, 2093, 2094, 2095, 2096, 2097, 2098, 2099, 2100, 2101, 2102, 2103, 2104, 2105, 2106, 2107, 2108, 2109, 2110, 2111, 2112, 2113, 2114, 2115, 2116, 2117, 2118, 2119, 2120, 2121, 2122, 2123, 2124, 2125, 2126, 2127, 2128, 2129, 2130, 2131, 2132, 2133, 2134, 2135, 2136, 2137, 2138, 2139, 2140, 2141, 2142, 2143, 2144, 2145, 2146, 2147, 2148, 2149, 2150, 2151, 2152, 2153, 2154, 2155, 2156, 2157, 2158, 2159, 2160, 2161, 2162, 2163, 2164, 2165, 2166, 2167, 2168, 2169, 2170, 2171, 2172, 2173, 2174, 2175, 2176, 2177, 2178, 2179, 2180, 2181, 2182, 2183, 2184, 2185, 2186, 2187, 2188, 2189, 2190, 2191, 2192, 2193, 2194, 2195, 2196, 2197, 2198, 2199, 2200, 2201, 2202, 2203, 2204, 2205, 2206, 2207, 2208, 2209, 2210, 2211, 2212, 2213, 2214, 2215, 2216, 2217, 2218, 2219, 2220, 2221, 2222, 2223, 2224, 2225, 2226, 2227, 2228, 2229, 2230, 2231, 2232, 2233, 2234, 2235, 2236, 2237, 2238, 2239, 2240, 2241, 2242, 2243, 2244, 2245, 2246, 2247, 2248, 2249, 2250, 2251, 2252, 2253, 2254, 2255, 2256, 2257, 2258, 2259, 2260, 2261, 2262, 2263, 2264, 2265, 2266, 2267, 2268, 2269, 2270, 2271, 2272, 2273, 2274, 2275, 2276, 2277, 2278, 2279, 2280, 2281, 2282, 2283, 2284, 2285, 2286, 2287, 2288, 2289, 2290, 2291, 2292, 2293, 2294, 2295, 2296, 2297, 2298, 2299, 2300, 2301, 2302, 2303, 2304, 2305, 2306, 2307, 2308, 2309, 2310, 2311, 2312, 2313, 2314, 2315, 2316, 2317, 2318, 2319, 2320, 2321, 2322, 2323, 2324, 2325, 2326, 2327, 2328, 2329, 2330, 2331, 2332, 2333, 2334, 2335, 2336, 2337, 2338, 2339, 2340, 2341, 2342, 2343, 2344, 2345, 2346, 2347, 2348, 2349, 2350, 2351, 2352, 2353, 2354, 2355, 2356, 2357, 2358, 2359, 2360, 2361, 2362, 2363, 2364, 2365, 2366, 2367, 2368, 2369, 2370, 2371, 2372, 2373, 2374, 2375, 2376, 2377, 2378, 2379, 2380, 2381, 2382, 2383, 2384, 2385, 2386, 2387, 2388, 2389, 2390, 2391, 2392, 2393, 2394, 2395, 2396, 2397, 2398, 2399, 2400, 2401, 2402, 2403, 2404, 2405, 2406, 2407, 2408, 2409, 2410, 2411, 2412, 2413, 2414, 2415, 2416, 2417, 2418, 2419, 2420, 2421, 2422, 2423, 2424, 2425, 2426, 2427, 2428, 2429, 2430, 2431, 2432, 2433, 2434, 2435, 2436, 2437, 2438, 2439, 2440, 2441, 2442, 2443, 2444, 2445, 2446, 2447, 2448, 2449, 2450, 2451, 2452, 2453, 2454, 2455, 2456, 2457, 2458, 2459, 2460, 2461, 2462, 2463, 2464, 2465, 2466, 2467, 2468, 2469, 2470, 2471, 2472, 2473, 2474, 2475, 2476, 2477, 2478, 2479, 2480, 2481, 2482, 2483, 2484, 2485, 2486, 2487, 2488, 2489, 2490, 2491, 2492, 2493, 2494, 2495, 2496, 2497, 2498, 2499, 2500, 2501, 2502, 2503, 2504, 2505, 2506, 2507, 2508, 2509, 2510, 2511, 2512, 2513, 2514, 2515, 2516, 2517, 2518, 2519, 2520, 2521, 2522, 2523, 2524, 2525, 2526, 2527, 2528, 2529, 2530, 2531, 2532, 2533, 2534, 2535, 2536, 2537, 2538, 2539, 2540, 2541, 2542, 2543, 2544, 2545, 2546, 2547, 2548, 2549, 2550, 2551, 2552, 2553, 2554, 2555, 2556, 2557, 2558, 2559, 2560, 2561, 2562, 2563, 2564, 2565, 2566, 2567, 2568, 2569, 2570, 2571, 2572, 2573, 2574, 2575, 2576, 2577, 2578, 2579, 2580, 2581, 2582, 2583, 2584, 2585, 2586, 2587, 2588, 2589, 2590, 2591, 2592, 2593, 2594, 2595, 2596, 2597, 2598, 2599, 2600, 2601, 2602, 2603, 2604, 2605, 2606, 2607, 2608, 2609, 2610, 2611, 2612, 2613, 2614, 2615, 2616, 2617, 2618, 2619, 2620, 2621, 2622, 2623, 2624, 2625, 2626, 2627, 2628, 2629, 2630, 2631, 2632, 2633, 2634, 2635, 2636, 2637, 2638, 2639, 2640, 2641, 2642, 2643, 2644, 2645, 2646, 2647, 2648, 2649, 2650, 2651, 2652, 2653, 2654, 2655, 2656, 2657, 2658, 2659, 2660, 2661, 2662, 2663, 2664, 2665, 2666, 2667, 2668, 2669, 2670, 2671, 2672, 2673, 2674, 2675, 2676, 2677, 2678, 2679, 2680, 26

[illegible]

- **Top quality, built around with residents**

[illegible]

## DATA SWITCH POINTS

- [illegible]

1. **Identify the main components of the system.**

Age Group	Male (%)	Female (%)
18-24	~85	~75
25-34	~75	~65
35-44	~65	~55
45-54	~55	~45
55-64	~45	~35
65+	~35	~25

- ```

100 # Import the pandas module
101 import pandas as pd
102
103 # Create a DataFrame from the data
104 data = pd.DataFrame({
105     'Year': [2010, 2011, 2012, 2013, 2014, 2015, 2016, 2017, 2018, 2019],
106     'Country': ['USA', 'China', 'India', 'Germany', 'UK', 'France', 'Canada', 'Japan', 'Brazil', 'Australia'],
107     'GDP': [15.5, 10.5, 7.5, 3.5, 2.5, 2.5, 2.0, 1.5, 1.5, 1.5]
108 })
109
110 # Print the DataFrame
111 print(data)

```

[illegible][illegible]

- **Full Auto Image for APOD.**  
2000/2000+ (Phase 2 mode)
- **Compatible with most leading**  
**Star packages (see: D-Memo)**
- **Start in - Mid Oct 8 -**  
**Mid Nov**
- **Full Optic (tested)**
- **No need to pay more -**  
**Just need a good**

**Abstract**



**PAINTING**

- 200 gms. Cr. to 1000 mgp. Carcinomas parallel level.
- 2-4000 or 10000 plasmas noted
- 1 day. Insult.



- 25 plus 10 in 20 gas 10 – second printer level.
- 2000-01-1000 – please state
- 1000-0000

100% **RECEIVED**

● ST COPY -  
DEEP SCAN NIBBLER

- Change not within 1000 m across highly productive grassland to within 100 m

- [illegible]

**KEYWORDS:** child abuse; child sexual abuse; child sexual exploitation; child sexual abuse investigation; child sexual abuse assessment



# DATEL ELECTRONICS

☐ **EXTERNAL 3.5" DISK DRIVE**

- [illegible]

ONLY **E114.99** POST FREE  
Add 1.00 for Exped. Shipt. if needed!



## 512K RAM EXTENSION \* 6500

- Available with optional colorbar stick option
- Simply plug internally into a 1500 slot
- Fixed in size - no soldering etc
- With colorbar/stick colored line, data automatically loaded
- Battery backed to retain time/date

**ONLY \$109.99** FREE SHIPPING & HANDLING

**ONLY \$119.99** FROM MONDAY WITH CLOCKWORK LENSES.

## REFERENCES

• **Wells simply the best** that anyone available for the damage.

- |                                                                                                          |                                                                                               |
|----------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------|
| <input type="checkbox"/> MyPC has background app support and app backgrounding                           | <input type="checkbox"/> Speed: Windows 10 app with single-core CPU LIMITED previous releases |
| <input type="checkbox"/> Friendly user interface - always driving the change                             | <input type="checkbox"/> Support app to run simultaneously for multiple users                 |
| <input type="checkbox"/> Designed compatible with large, mid-range, mid-range system                     | <input type="checkbox"/> Include application controller to always stay the latest             |
| <input type="checkbox"/> Two device type essential programs included (1. Print, Mail / Print, Mail, etc) | <input type="checkbox"/> Fast operation - quickly access all services                         |
|                                                                                                          | <input type="checkbox"/> 100% low cost system                                                 |

1997, 1998, 1999, 2000, 2001, 2002, 2003, 2004, 2005, 2006, 2007, 2008, 2009, 2010, 2011, 2012, 2013, 2014, 2015, 2016, 2017, 2018, 2019, 2020, 2021, 2022, 2023, 2024, 2025, 2026, 2027, 2028, 2029, 2030, 2031, 2032, 2033, 2034, 2035, 2036, 2037, 2038, 2039, 2040, 2041, 2042, 2043, 2044, 2045, 2046, 2047, 2048, 2049, 2050, 2051, 2052, 2053, 2054, 2055, 2056, 2057, 2058, 2059, 2060, 2061, 2062, 2063, 2064, 2065, 2066, 2067, 2068, 2069, 2070, 2071, 2072, 2073, 2074, 2075, 2076, 2077, 2078, 2079, 2080, 2081, 2082, 2083, 2084, 2085, 2086, 2087, 2088, 2089, 2090, 2091, 2092, 2093, 2094, 2095, 2096, 2097, 2098, 2099, 2100, 2101, 2102, 2103, 2104, 2105, 2106, 2107, 2108, 2109, 2110, 2111, 2112, 2113, 2114, 2115, 2116, 2117, 2118, 2119, 2120, 2121, 2122, 2123, 2124, 2125, 2126, 2127, 2128, 2129, 2130, 2131, 2132, 2133, 2134, 2135, 2136, 2137, 2138, 2139, 2140, 2141, 2142, 2143, 2144, 2145, 2146, 2147, 2148, 2149, 2150, 2151, 2152, 2153, 2154, 2155, 2156, 2157, 2158, 2159, 2160, 2161, 2162, 2163, 2164, 2165, 2166, 2167, 2168, 2169, 2170, 2171, 2172, 2173, 2174, 2175, 2176, 2177, 2178, 2179, 2180, 2181, 2182, 2183, 2184, 2185, 2186, 2187, 2188, 2189, 2190, 2191, 2192, 2193, 2194, 2195, 2196, 2197, 2198, 2199, 2200, 2201, 2202, 2203, 2204, 2205, 2206, 2207, 2208, 2209, 2210, 2211, 2212, 2213, 2214, 2215, 2216, 2217, 2218, 2219, 2220, 2221, 2222, 2223, 2224, 2225, 2226, 2227, 2228, 2229, 2230, 2231, 2232, 2233, 2234, 2235, 2236, 2237, 2238, 2239, 2240, 2241, 2242, 2243, 2244, 2245, 2246, 2247, 2248, 2249, 2250, 2251, 2252, 2253, 2254, 2255, 2256, 2257, 2258, 2259, 2260, 2261, 2262, 2263, 2264, 2265, 2266, 2267, 2268, 2269, 2270, 2271, 2272, 2273, 2274, 2275, 2276, 2277, 2278, 2279, 2280, 2281, 2282, 2283, 2284, 2285, 2286, 2287, 2288, 2289, 2290, 2291, 2292, 2293, 2294, 2295, 2296, 2297, 2298, 2299, 2300, 2301, 2302, 2303, 2304, 2305, 2306, 2307, 2308, 2309, 2310, 2311, 2312, 2313, 2314, 2315, 2316, 2317, 2318, 2319, 2320, 2321, 2322, 2323, 2324, 2325, 2326, 2327, 2328, 2329, 2330, 2331, 2332, 2333, 2334, 2335, 2336, 2337, 2338, 2339, 2340, 2341, 2342, 2343, 2344, 2345, 2346, 2347, 2348, 2349, 2350, 2351, 2352, 2353, 2354, 2355, 2356, 2357, 2358, 2359, 2360, 2361, 2362, 2363, 2364, 2365, 2366, 2367, 2368, 2369, 2370, 2371, 2372, 2373, 2374, 2375, 2376, 2377, 2378, 2379, 2380, 2381, 2382, 2383, 2384, 2385, 2386, 2387, 2388, 2389, 2390, 2391, 2392, 2393, 2394, 2395, 2396, 2397, 2398, 2399, 2400, 2401, 2402, 2403, 2404, 2405, 2406, 2407, 2408, 2409, 2410, 2411, 2412, 2413, 2414, 2415, 2416, 2417, 2418, 2419, 2420, 2421, 2422, 2423, 2424, 2425, 2426, 2427, 2428, 2429, 2430, 2431, 2432, 2433, 2434, 2435, 2436, 2437, 2438, 2439, 2440, 2441, 2442, 2443, 2444, 2445, 2446, 2447, 2448, 2449, 2450, 2451, 2452, 2453, 2454, 2455, 2456, 2457, 2458, 2459, 2460, 2461, 2462, 2463, 2464, 2465, 2466, 2467, 2468, 2469, 2470, 2471, 2472, 2473, 2474, 2475, 2476, 2477, 2478, 2479, 2480, 2481, 2482, 2483, 2484, 2485, 2486, 2487, 2488, 2489, 2490, 2491, 2492, 2493, 2494, 2495, 2496, 2497, 2498, 2499, 2500, 2501, 2502, 2503, 2504, 2505, 2506, 2507, 2508, 2509, 2510, 2511, 2512, 2513, 2514, 2515, 2516, 2517, 2518, 2519, 2520, 2521, 2522, 2523, 2524, 2525, 2526, 2527, 2528, 2529, 2530, 2531, 2532, 2533, 2534, 2535, 2536, 2537, 2538, 2539, 2540, 2541, 2542, 2543, 2544, 2545, 2546, 2547, 2548, 2549, 2550, 2551, 2552, 2553, 2554, 2555, 2556, 2557, 2558, 2559, 2560, 2561, 2562, 2563, 2564, 2565, 2566, 2567, 2568, 2569, 2570, 2571, 2572, 2573, 2574, 2575, 2576, 2577, 2578, 2579, 2580, 2581, 2582, 2583, 2584, 2585, 2586, 2587, 2588, 2589, 2590, 2591, 2592, 2593, 2594, 2595, 2596, 2597, 2598, 2599, 2600, 2601, 2602, 2603, 2604, 2605, 2606, 2607, 2608, 2609, 2610, 2611, 2612, 2613, 2614, 2615, 2616, 2617, 2618, 2619, 2620, 2621, 2622, 2623, 2624, 2625, 2626, 2627, 2628, 2629, 2630, 2631, 2632, 2633, 2634, 2635, 2636, 2637, 2638, 2639, 2640, 2641, 2642, 2643, 2644, 2645, 2646, 2647, 2648, 2649, 2650, 2651, 2652, 2653, 2654, 2655, 2656, 2657, 2658, 2659, 2660, 2661, 2662, 2663, 2664, 2665, 2666, 2667, 2668, 2669, 2670, 2671, 2672, 2673, 2674, 2675, 2676, 2677, 2678, 26



### 1 MEG INTERNAL DRIVE UPGRADE

- ☐ Upgrade internal RAM, drive with a full 1 meg byte.
- ☐ Buy quality EEC-approved car.
- ☐ Fit timing instrument.
- ☐ Buy fuel tank or spend with required.
- ☐ Invest plug in replacement.
- ☐ Catalytic converter.

**SOLDER/DESOLDER KIT**

- ☒ Quality customer service is essential to our success.



- 1 MEG RAM  
UPGRADE KIT

- ☐ Completed list of his interviewees since 1979
- ☐ In 1981 he published his first paper (not again in 1982)
- ☐ 1982 was a breakthrough year for him, followed by subsequent ones as his reputation grew
- ☐ He became fully fledged team member
- ☐ Completed with 10 interviews


[illegible]

1. **Introduction**  
 2. **Background**  
 3. **Methodology**  
 4. **Results**  
 5. **Conclusion**  
 6. **References**

| Age Group | Male | Female |
|-----------|------|--------|
| 0-14      | 10   | 10     |
| 15-24     | 80   | 70     |
| 25-34     | 60   | 50     |
| 35-44     | 40   | 30     |
| 45-54     | 20   | 10     |
| 55-64     | 10   | 5      |
| 65-74     | 5    | 2      |
| 75-84     | 2    | 1      |
| 85+       | 1    | 0      |

ALL COUNTRIES NORMALLY REOPENING WITHIN AN HOUR

## HOW TO ORDER.....

|                                                                                                                                                                                                                                                                                                         |                                                                                                                                                                      |                                                                                                               |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------|
| <p><b>BY PHONE</b></p>   <p><b>BY FAX</b></p>  | <p><b>BY POST</b></p>  <p>Send original (no cash equivalent) - hand delivered</p> | <p><b>FAX</b></p> <p>24 HOURS</p> <p>US: 1-800-451-7277<br/>UK: 01452 727277<br/>Outside UK: 01452 727277</p> |
| <p><b>PRICES AND SPECIFICATIONS CURRENT AT TIME OF PRINTING AND SUBJECT TO CHANGE WITHOUT NOTICE</b></p>                                                                                                                                                                                                |                                                                                                                                                                      |                                                                                                               |
| <p><b>DATTEL ELECTRONICS</b></p>                                                                                                                                                                                                                                                                        |                                                                                                                                                                      |                                                                                                               |
| <p><b>DATTEL ELECTRONICS LTD., PRINCE INDUSTRIAL ESTATE, STAN ROAD, STANTON, STOKES-ON-TRENT, ENGLAND.</b></p>                                                                                                                                                                                          |                                                                                                                                                                      |                                                                                                               |
| <p><b>CABLES ONLY</b><br/><b>01452 726707</b></p>                                                                                                                                                                                                                                                       | <p><b>TECHNICAL ONLY</b><br/><b>01452 726204</b></p>                                                                                                                 |                                                                                                               |



## GRAPHICS



### VIDEO DIGITISERS

Reviewers of these brand new OCTect customers—3 Graphics 3 and Delta for the Amiga and Turbo 320 for the ST—give a look at image-processing techniques to help you get more from your digitiser.

40

## REVIEWS



### STOS

25

Can you really write your own ST games? Not if you're the professional? We test the STOS system out.



### TRUE BASIC

31

Basic strikes back at its ST foe—could this official new version be better than Pascal?



### K-MINSTREL 2

34

Korn's improved entry-level ST music system could be a boon to budding beatmakers.



### DATA MANAGER PROFESSIONAL

48

A powerful relational database at a relatively low price. Does it deliver the goods?



85

Three ways your Commodore 64 can protect its data: programming the Amiga, smelly a matter of clicking icons.

# 3D GRAPHIC WONDERS!

Over the few months since the launch of ST Amiga Forum one of the most noticeable changes in the software that has flowed through the office is the improvement in the quality of game graphics. At the start of the year a lot of the games material was based around computer-aided design programs in the eight bit world. Now often the graphics were direct copies of the vector and backgrounds used in the earlier versions. This automatically meant that the full potential of the ST and Amiga was rarely realised.

Recent releases have tended more and more to use vector, digital strategy and solid 3D graphics, all of which are ideally suited to the increased processing power and higher graphical resolution of the ST for machines. No longer are games limited to a few 2D and 3D sprite or wireframe icons and eight colours

as screens of stars. Current games like *Conan*, *Commander*, *Starship 2* and *Federation of Free Traders* show just what can be achieved and approach the high computer quality in both frame rate and screen mapping. *Starship 2* shows some of the talent in its use of *Lightwave* 3D. The graphics routines used in these programs are far ahead of the cutting edge of even a few months ago.

The best part of all this is that we're still a long way from the best three dimensional game games. Remember when the first games on the BBC Micro took programs so that machine into a new realm. Six months earlier, no-one would have believed it possible as an eight bitter. On current standing, who'd like to guess at what will be making its appearance on the ST and Amiga in six months time?

## MUSIC



### INITIAL MIDI

37

What really do you have to do to connect your ST to Amiga up to a synthesiser and what happens next? Read our photo guide here.



### TOOLING UP

70

A pair of quick editors to boost your Amiga data base and on ST mono/colour screen converter.



### LEARN BASIC

82

Part 2 winds its way through *WML's* and *WML's*, complete with your own type-in games.



### DESKTOP

88

Brilliant for ST users—100% top screen in its top, and writes you don't want missing.



### WORKBENCH

91

Baseline Desktop Control of the Amiga's internal organs with these vital tools for users of all skills.

# Upgrade your GFA BASIC & get £30 of FREE Software!

Power BASIC and HiSoft BASIC have grown to be the standard BASIC implementations for the Atari ST and now HiSoft has a very special offer for existing GFA BASIC 2 users

Buy Power BASIC directly from us for the regular price of £49.95 *plus 1 year return* your GFA BASIC 2 interpreter with your order and get a free copy of Saved! worth £29.95, a free GFA-to-Power BASIC converter and a free mouse mat!

## FREE when you upgrade from GFA to Power BASIC

### GFA-BASIC converter

Converts GFA BASIC .LST files into Power BASIC format so to save your GFA BASIC programs as ASCII before returning your disk to us!

### Saved! Package

Our invaluable desk accessory and utility package, including the Saved! desk accessory, read-writeable RAM-disk, printer spooler etc.

### HiSoft File Selector

Adds drive buttons, type-ahead and much more to the standard GEM File Selector

### Mouse Mat

Showing the complete ST ASCII character set

*offer only available direct from us, offer starts 1.8.93, expires 31.12.93. Price is £9.95, half of your BASIC to £29.95 and the special offer is not available*

## Power BASIC Features

- Integrated fast, easy-to-use GEM editor
- Produces faster code than any other ST BASIC
- Compiles from memory to memory for fast development times
- Advanced language, based on world-standard Microsoft QuickBASIC 3
- Powerful Procedures and Functions including local labels, fully recursive
- More than 260 pages of English, black/white documentation with many example programs
- Complete access to GEM AES and VDI
- Complete access to BIOS, XIOES & GEMDOS
- Includes joystick, mouse & sound commands
- Can produce stand alone program files on disk for you to give away or sell (no royalties)
- Supports short & long integers, single & double precision numbers and unlimited string size
- Line numbers optional
- Multi-statement lines & multi line statements
- Easy access to Atari buses, Memos & Windows
- You'll never outgrow it - access BIOS, resource files, dialog boxes as your skills develop
- Made & supported in Britain

See the price reduction in PCW June 88, Atari ST User June 88, ST Amiga Format July 88

## Also Available: HiSoft BASIC

All the features of Power BASIC plus:

- Create your own desk accessories
- Stand-alone TTP compiler
- Easy access to machine-code (via Dropin87)
- Program profiling

The special GFA offer (see left) is also available when buying HiSoft BASIC which costs £79.95

# HiSoft

High Quality Software

HiSoft, The Old School,  
Greenfield, Bedford MK45 5DE  
Order: (0525) 718271, General: (0525) 718161

All prices include VAT and UK first class postage.  
Export & Trade details available on request

Name:  
Address:

- ☐ Please send me a Power BASIC, enclosed is £49.95  
☐ Also enclosed large GFA BASIC 2 master disk & manual  
please also supply Saved! and a mouse mat FREE!

Charge/PO  
Access/VISA number  
Expires

Signature



NEWS

## Low-cost Laser launch

Peeking it along into PPS, but normal as the soft? Come Computer Products have to help you make up your mind by offering the Commodore PagePrinter. A laser printer at a mere low-cost of £1000, including VAT, the soft? page can make two, tagged, Green PS, Delta, and 804 PagePrinter emulations, and half a megabyte of memory is, instead, for power. DTP use is required to get high-quality and the printer is better. DTP 80 keeps you another 1.50 and 100,000 pages (100,000) using just a little fractional DTP price. For only one year £1000.

The PagePrinter comes with a year's warranty, but credit commences to arrive from October for a further £175 to be added.

■ Green Computers, 2115 West Lane, Buncroft, Leeds, LA4 4AL 0504 699813.



■ Commodore's a name to see, one with on the side of the front for real laser drive Green

# FAST scuppers Scottish pirates

FAST the Federation Against Software Theft working in collaboration with software houses Lindores, Arts Film Green, Micropress, MS Gold and the boys in blue from Glasgow's C Division have conducted their biggest raid yet, against alleged software pirates. In a bid of simultaneous raids at the beginning of August £154,000 were seized from a number of sites. The drugs concerned were 5000 programs, one in its business and utility software as well as a large number of games and the total has an estimated street value of over £200,000.

It is alleged the piracy ring had for some while been selling licensed distributors of well-known games and business software from a stall at a local Glasgow market. It was only in March of this year however that they expanded their operation to offer a postal copying service to customers. It is understood that they were advertising at a number of computer magazines and national press. The company changed its name several times in the last six months.

Bearing the name Sam-Jeffrey at Lindores, Arts spent some time in Glasgow help to coordinate efforts and was "shocked at the extent of piracy" which had been unearthed. He is now convinced that a major factor at the current state of piracy is the marketing others operating from within own groups. By ensuring protection from programs and photostating manuals of local boot groups, these owners can duplicate even GAs top licensed software, normally protected by its complexity and the need for a manual.

Later this year the Copyright Designs and Patents, Bill is due to become law. The bill will outlaw "counter" copying devices. Through a new offence termed "Trade Mark infringement" which will carry a maximum penalty of 10 years imprisonment.

This is the first big enforcement raid in Scotland, but it seems likely to lead to follow-up action in other parts of the UK. Sir Ray of HSE confirmed that police reports had been handed to the Procurator Fiscal with a view to prosecution.



Only £154,000 more than they try

■ Corbett adds: With all this talk about the law against copying of software, some thought must still be given to the user of the software who has a legitimate need to copy a program to guard against disk corruption in common operation. It's not really enough for software houses to offer a return of cost replacement service for damaged disks, and we know of users as yet who adhere to such a concept. How about

providing a properly labelled second copy of business and library software to legitimate backups? By all means number them and mark them (backlog to discourage passing on). The result at least gives the end user who is the one to have suffered in such as at the first place adequate protection against the unknown. Any comments on this idea to our letters page please.



# GAMES GIANTS SPURN PC SHOW

This year's PC Show (formerly the PCW Show) is scheduled to be the biggest and glottest ever yet, many of the big names in games and leisure software have chosen to do their own things. Some have pulled out completely and have their own exhibitions or selling tickets or halls, others have small parts or collect the stands from where VPs from the trade show means we found lots of courses can be visited off to special presentations of alternative venues.

As the leading show in the computer industry reaches its eleventh year and enters its 25th year, each larger than the last, the award of some like Magnopus (see April issue), Electronic Arts and Gordin Graphics, especially quite a hole at the show, attending the show. As the stands get bigger and more expensive, software companies have to look more and more carefully at the effectiveness of spending on large stands. Ian Stewart, MD of Gordin, put over \$100,000 into this stand last year and feels that the expense of the show has outweighed the value. The company is putting on its own presentation at Comdex/US, a separate site before which Stewart believes will make more of an impact on the people that come to the show to go to Comdex/US, get a ticket.

Software houses are taking more and more about where to put the exhibits. Many now concentrate on magazine advertising (Preston), Ad Dept or Point of Sale promotions (Brough-Scott), Electronic Arts and Gordin. Why put it? The people we need to see are relatively small bands of trade and press buyers who are often most effectively started through a separate presentation. The show is interested by Larry Spence of Magnopus, who said that the long-term marketing strategy to be more cost effective, to generate a higher profit and to take marketing to specific groups. And again, are concentrating on trade and press at the show with a separate presentation and showrooms, rather than to the show. They have a TV screen scheduled for November to keep their products in the customer's eye.

The outcome of this policy of targeting game to areas of the industry is good for hardware dealers and peripherals, but is likely to mean fewer and fewer magazines at the main computer show, and less direct contact with the people who actually pay for the products - you lot.

■ The Personal Computer Show will finish 1986 on 25th September at Earls Court, Admission is £10 on the door. Also on show by the Future Publishing booth and much more of the BT Argo Festival start 2 weeks on stand 10.

## Barbaric use for new software

The best advertisement for a new piece of programming software is to have someone write something really good to use it. If that someone happens to be the same company that wrote the programming software, and that something is barbaric, it is the follow-up to the best selling item ever - giving it all sorts of very convenient.

The software in question is Outline Productions' Street Writing Construction. A game writing package and Outline's Barbaric is to currently being programmed using it. Outline is available on both ST and Amiga and others full package design as well as editors for graphics and sound. It also too would like to try your hand at writing games. Once your low dollar's come with £24.99 and make money with Outline's Barbaric.

■ Outline Productions, The Old Forge, 7, Cambridge Road, London W9 3BB. Tel: 070-075241.



■ A Barbaric designed by William H. or was it A. Baker.

## Atari launches Micro Micro

Among the high profits of product, almost instant is not missing. Atari have announced a tie up with Cambridge-based SP Computers, whose market PC line will market worldwide. While this might not seem directly relevant to ST or Amiga owners, there's actually a lot to be said for this new used factor, with an 8x40 LCD screen, 1Mbit of RAM, 256K of upgradeable software or ROM and credit card reader, meant to be a storage. The key feature of the new machine, which should be available soon after Christmas for under £200, is that the related software includes a compression pack and automatically some form of security to connect it to the outside world. This opens the opportunity of recording data in the public domain and transferring it later to your home, more back to back.

The product also comes a good processor. Let's not even bother mentioning, access look and access after this and you'll find it could be very handy in its own right, assuming you can get your finger on the machine's keyboard. And the thing for showing off to fellow non-programmers.



■ Laptop ST or pocket PC? Which will fit the market best.



[illegible]





# FUTURE PERFECT?

Andy Storer anticipates an autumn avalanche of action with previews of the hottest upcoming games.



■ B.A.T.

**B.A.T.**  
LEIBERT ■ ST & Sings ■  
£24.95

A graphic adventure set in the 21st century when you find your self working for the Bureau des Affaires Temporelles, a secret organisation responsible for ensuring justice and tracking down subversives. What's more you're undergoing a few modifications - like you have a computer in your forehead enabling an instant power flow through tubes you all world to the other interplanetary continents all depicted in really brilliant graphics.

## ZORK ZERO

**WORMS ■ ST & Sings ■  
£24.95**

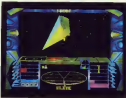
In the beginning there was Zork. Zork was a million copies and became (history's) best selling entertainment software. So here comes the huge sequel to Zork featuring William's few adventures systems also mainly in Lord Dunsen's fabulous 'Eldorado' which is really like to play (single player). How did the Great Underground Empire collapse? Where do Gnomes come from? What and where was I say first? So on. Everywhere there's monsters.

## FUSION

**ELECTRONIC ARTS ■ Sings ■  
£24.95**

An arcade-fighting title developed in the UK and employing some very pretty animated graphics with

3-dimensional graphics including 360° levels and dynamic sounds. And Fusion counts gain the press release quite clearly states: 'The objective is to be invulnerable. Dodge, block, evade, punish opponents who react and respond to your attacks. You try to collect 100 credits, the symbols of an ancient temple and figure out what happens to the temple. Actually do tell you it is a cool friendly suit at any!



■ ELITE

## ELITE

**PARAGON ■ ST & Sings ■  
£24.95**

Probably the only game to have ever achieved two hit status makes its solid 3D appearance on our 386 followers. Do you know anyone who hasn't played it? Featuring 5 scenarios, 10000 objects, systems and features of orders, police and bounty hunters, you have got to see the faces of the stars in their vehicles. Looks as though there'll be enough entertainment and updates in there to make the real thing more worthwhile.

## CHRONO-QUEST

**WORMS ■ ST & Sings ■  
£24.95**

Based on the first of a new generation of adventure games from Playroom (Chrono-Quest is a time-travelling adventure) which looks just great. Now later has been awarded and plans the game's pace. But it's not one of those fast can you possibly be asked your clock back or time and asked your father disowns (Dad) until the

end of time in fact (Chrono-Quest is a time-travelling game) at an action and 3D or 2D screen view of the 10 most action looking all with an opening library of 30 000 words.

## MAFDET

**SOFTWARE ■ WORMS ■ ST & Sings ■  
£24.95**

The first of three releases by a brand new company offering its wares in a refreshingly low price not hopefully delivering power too. Mafdet is set in Egyptian mythology and you become it or not, are Mafdet like the goddess Isis or? (Remember, left, right and centre you are a search for the Book of the Dead. Otherwise I wonder as though you could be wandering around the labyrinth of light a few years to



■ SPITTING IMAGE

**WORMS ■ ST & Sings ■  
£24.95**

The series' commentators have collaborated on this one so hopefully all the acid humour will have most of its edge. Pastiche. Mafdet, Spitting Image, Boris, Peter and of course The British all want to have over the world. The making, combat rules on you destroying the credibility - after all character assassination must qualify as a shocker somewhere along the line.

Format game for the biggest eye-made hypertextual attack or low-intensity action-adventure game - did you have to be into the future to find the real meaning after that finding a machine to take you there. As there's always to take like the project you should have bought the machine.

## BATTLE CHESS

**ELECTRONIC ARTS ■ Sings ■  
£24.95**

Real graphics that Battle Chess, both a little more action and the greatest strategy game of all time and there in some digest



■ FUSION



■ BATTLE CHESS





# MOTOROLA COASTER

The 68000 heart of the ST and Amiga is only one of a range of super-chips in the 68K series from Motorola. Richard Monteiro looks further up the range at the high speed mega processors that give a good insight into the mighty micros of the future.

I thought I'd heard plenty that you can't get a 68000 without a coprocessor, but to be 16-bit which is generally taken as an indicator of a coprocessor's power. To be 16-bit is a start. The device that actually gives a machine its 68-bit 16-bit or even 32-bit being in the microprocessor, the heart of the machine. You're probably aware that the 68000 chip is used in several of our ST and Amiga models, but what you might not know is that the 68000 processor family does several as diverse as digital cell-phones, equipment for positioning Navy sea-sailing platforms and electronic controllers in car engines.

Motorola launched its 68000 standard for the 68000 to the world in 1979. When the 67 processor is currently wanted (16-bit), it is a 16-bit 16-bit. Fully 16-bit because it can only communicate with the outside world 16-bit data to the 16-bit chip packaging. Isn't developed enough to allow more than 16 pins along two sides of a chip and partly 68-bit because its inner workings are 68-bit wide. The 68000 was the first microprocessor to boast a 32-bit central bus.

The 68000 actually lets you the largest number that can be handled by the chip in one operation. The microprocessor 16-bit data path of the 68000 can operate on any number between 0 and the largest binary number that will fit in 16 bits - which happens to be 65535. However the 68000 can deal with 32-bit numbers internally or any number from 0 to 4294967295 (4 billion). As digitalists, all these figures actually do is to give you a rough idea of processor power. Generally the larger the number that can be manipulated, the more powerful the processor. Since a 16-bit micro will usually be much faster than a 32-bit micro.

68000s have a 32-bit address bus (even if Amiga technical support tell us it's only 28-bit) which means they can access memory in the range 0 to 4294967295 (4 billion).

Despite the wings not all microprocessors do this in the full. Although the wings can address the full 16-bit only 9 bits can be RAM. The rest is reserved for custom chips. The 67 is allowed to access only less than 4 Mbytes. This is a restriction of the memory management unit.

## 68000 Plus?

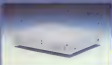
The 68000 was created shortly after the 68010. This multi-processor was the base of the 68010. Although it claims to be 16-bit it only has an 8-bit data bus and 32-bit address bus (accessing 4M to 68010 after that comes the 68010 and 68012 - almost identical to the 68000 but with additional instructions and registers. The available extra addresses after the 68010, 68012, 68013, 68014, 68015, 68016, 68017, 68018, 68019, 68020, 68021, 68022, 68023, 68024, 68025, 68026, 68027, 68028, 68029, 68030, 68031, 68032, 68033, 68034, 68035, 68036, 68037, 68038, 68039, 68040, 68041, 68042, 68043, 68044, 68045, 68046, 68047, 68048, 68049, 68050, 68051, 68052, 68053, 68054, 68055, 68056, 68057, 68058, 68059, 68060, 68061, 68062, 68063, 68064, 68065, 68066, 68067, 68068, 68069, 68070, 68071, 68072, 68073, 68074, 68075, 68076, 68077, 68078, 68079, 68080, 68081, 68082, 68083, 68084, 68085, 68086, 68087, 68088, 68089, 68090, 68091, 68092, 68093, 68094, 68095, 68096, 68097, 68098, 68099, 68100, 68101, 68102, 68103, 68104, 68105, 68106, 68107, 68108, 68109, 68110, 68111, 68112, 68113, 68114, 68115, 68116, 68117, 68118, 68119, 68120, 68121, 68122, 68123, 68124, 68125, 68126, 68127, 68128, 68129, 68130, 68131, 68132, 68133, 68134, 68135, 68136, 68137, 68138, 68139, 68140, 68141, 68142, 68143, 68144, 68145, 68146, 68147, 68148, 68149, 68150, 68151, 68152, 68153, 68154, 68155, 68156, 68157, 68158, 68159, 68160, 68161, 68162, 68163, 68164, 68165, 68166, 68167, 68168, 68169, 68170, 68171, 68172, 68173, 68174, 68175, 68176, 68177, 68178, 68179, 68180, 68181, 68182, 68183, 68184, 68185, 68186, 68187, 68188, 68189, 68190, 68191, 68192, 68193, 68194, 68195, 68196, 68197, 68198, 68199, 68200, 68201, 68202, 68203, 68204, 68205, 68206, 68207, 68208, 68209, 68210, 68211, 68212, 68213, 68214, 68215, 68216, 68217, 68218, 68219, 68220, 68221, 68222, 68223, 68224, 68225, 68226, 68227, 68228, 68229, 68230, 68231, 68232, 68233, 68234, 68235, 68236, 68237, 68238, 68239, 68240, 68241, 68242, 68243, 68244, 68245, 68246, 68247, 68248, 68249, 68250, 68251, 68252, 68253, 68254, 68255, 68256, 68257, 68258, 68259, 68260, 68261, 68262, 68263, 68264, 68265, 68266, 68267, 68268, 68269, 68270, 68271, 68272, 68273, 68274, 68275, 68276, 68277, 68278, 68279, 68280, 68281, 68282, 68283, 68284, 68285, 68286, 68287, 68288, 68289, 68290, 68291, 68292, 68293, 68294, 68295, 68296, 68297, 68298, 68299, 68300, 68301, 68302, 68303, 68304, 68305, 68306, 68307, 68308, 68309, 68310, 68311, 68312, 68313, 68314, 68315, 68316, 68317, 68318, 68319, 68320, 68321, 68322, 68323, 68324, 68325, 68326, 68327, 68328, 68329, 68330, 68331, 68332, 68333, 68334, 68335, 68336, 68337, 68338, 68339, 68340, 68341, 68342, 68343, 68344, 68345, 68346, 68347, 68348, 68349, 68350, 68351, 68352, 68353, 68354, 68355, 68356, 68357, 68358, 68359, 68360, 68361, 68362, 68363, 68364, 68365, 68366, 68367, 68368, 68369, 68370, 68371, 68372, 68373, 68374, 68375, 68376, 68377, 68378, 68379, 68380, 68381, 68382, 68383, 68384, 68385, 68386, 68387, 68388, 68389, 68390, 68391, 68392, 68393, 68394, 68395, 68396, 68397, 68398, 68399, 68400, 68401, 68402, 68403, 68404, 68405, 68406, 68407, 68408, 68409, 68410, 68411, 68412, 68413, 68414, 68415, 68416, 68417, 68418, 68419, 68420, 68421, 68422, 68423, 68424, 68425, 68426, 68427, 68428, 68429, 68430, 68431, 68432, 68433, 68434, 68435, 68436, 68437, 68438, 68439, 68440, 68441, 68442, 68443, 68444, 68445, 68446, 68447, 68448, 68449, 68450, 68451, 68452, 68453, 68454, 68455, 68456, 68457, 68458, 68459, 68460, 68461, 68462, 68463, 68464, 68465, 68466, 68467, 68468, 68469, 68470, 68471, 68472, 68473, 68474, 68475, 68476, 68477, 68478, 68479, 68480, 68481, 68482, 68483, 68484, 68485, 68486, 68487, 68488, 68489, 68490, 68491, 68492, 68493, 68494, 68495, 68496, 68497, 68498, 68499, 68500, 68501, 68502, 68503, 68504, 68505, 68506, 68507, 68508, 68509, 68510, 68511, 68512, 68513, 68514, 68515, 68516, 68517, 68518, 68519, 68520, 68521, 68522, 68523, 68524, 68525, 68526, 68527, 68528, 68529, 68530, 68531, 68532, 68533, 68534, 68535, 68536, 68537, 68538, 68539, 68540, 68541, 68542, 68543, 68544, 68545, 68546, 68547, 68548, 68549, 68550, 68551, 68552, 68553, 68554, 68555, 68556, 68557, 68558, 68559, 68560, 68561, 68562, 68563, 68564, 68565, 68566, 68567, 68568, 68569, 68570, 68571, 68572, 68573, 68574, 68575, 68576, 68577, 68578, 68579, 68580, 68581, 68582, 68583, 68584, 68585, 68586, 68587, 68588, 68589, 68590, 68591, 68592, 68593, 68594, 68595, 68596, 68597, 68598, 68599, 68600, 68601, 68602, 68603, 68604, 68605, 68606, 68607, 68608, 68609, 68610, 68611, 68612, 68613, 68614, 68615, 68616, 68617, 68618, 68619, 68620, 68621, 68622, 68623, 68624, 68625, 68626, 68627, 68628, 68629, 68630, 68631, 68632, 68633, 68634, 68635, 68636, 68637, 68638, 68639, 68640, 68641, 68642, 68643, 68644, 68645, 68646, 68647, 68648, 68649, 68650, 68651, 68652, 68653, 68654, 68655, 68656, 68657, 68658, 68659, 68660, 68661, 68662, 68663, 68664, 68665, 68666, 68667, 68668, 68669, 68670, 68671, 68672, 68673, 68674, 68675, 68676, 68677, 68678, 68679, 68680, 68681, 68682, 68683, 68684, 68685, 68686, 68687, 68688, 68689, 68690, 68691, 68692, 68693, 68694, 68695, 68696, 68697, 68698, 68699, 68700, 68701, 68702, 68703, 68704, 68705, 68706, 68707, 68708, 68709, 68710, 68711, 68712, 68713, 68714, 68715, 68716, 68717, 68718, 68719, 68720, 68721, 68722, 68723, 68724, 68725, 68726, 68727, 68728, 68729, 68730, 68731, 68732, 68733, 68734, 68735, 68736, 68737, 68738, 68739, 68740, 68741, 68742, 68743, 68744, 68745, 68746, 68747, 68748, 68749, 68750, 68751, 68752, 68753, 68754, 68755, 68756, 68757, 68758, 68759, 68760, 68761, 68762, 68763, 68764, 68765, 68766, 68767, 68768, 68769, 68770, 68771, 68772, 68773, 68774, 68775, 68776, 68777, 68778, 68779, 68780, 68781, 68782, 68783, 68784, 68785, 68786, 68787, 68788, 68789, 68790, 68791, 68792, 68793, 68794, 68795, 68796, 68797, 68798, 68799, 68800, 68801, 68802, 68803, 68804, 68805, 68806, 68807, 68808, 68809, 68810, 68811, 68812, 68813, 68814, 68815, 68816, 68817, 68818, 68819, 68820, 68821, 68822, 68823, 68824, 68825, 68826, 68827, 68828, 68829, 68830, 68831, 68832, 68833, 68834, 68835, 68836, 68837, 68838, 68839, 68840, 68841, 68842, 68843, 68844, 68845, 68846, 68847, 68848, 68849, 68850, 68851, 68852, 68853, 68854, 68855, 68856, 68857, 68858, 68859, 68860, 68861, 68862, 68863, 68864, 68865, 68866, 68867, 68868, 68869, 68870, 68871, 68872, 68873, 68874, 68875, 68876, 68877, 68878, 68879, 68880, 68881, 68882, 68883, 68884, 68885, 68886, 68887, 68888, 68889, 68890, 68891, 68892, 68893, 68894, 68895, 68896, 68897, 68898, 68899, 68900, 68901, 68902, 68903, 68904, 68905, 68906, 68907, 68908, 68909, 68910, 68911, 68912, 68913, 68914, 68915, 68916, 68917, 68918, 68919, 68920, 68921, 68922, 68923, 68924, 68925, 68926, 68927, 68928, 68929, 68930, 68931, 68932, 68933, 68934, 68935, 68936, 68937, 68938, 68939, 68940, 68941, 68942, 68943, 68944, 68945, 68946, 68947, 68948, 68949, 68950, 68951, 68952, 68953, 68954, 68955, 68956, 68957, 68958, 68959, 68960, 68961, 68962, 68963, 68964, 68965, 68966, 68967, 68968, 68969, 68970, 68971, 68972, 68973, 68974, 68975, 68976, 68977, 68978, 68979, 68980, 68981, 68982, 68983, 68984, 68985, 68986, 68987, 68988, 68989, 68990, 68991, 68992, 68993, 68994, 68995, 68996, 68997, 68998, 68999, 69000, 69001, 69002, 69003, 69004, 69005, 69006, 69007, 69008, 69009, 69010, 69011, 69012, 69013, 69014, 69015, 69016, 69017, 69018, 69019, 69020, 69021, 69022, 69023, 69024, 69025, 69026, 69027, 69028, 69029, 69030, 69031, 69032, 69033, 69034, 69035, 69036, 69037, 69038, 69039, 69040, 69041, 69042, 69043, 69044, 69045, 69046, 69047, 69048, 69049, 69050, 69051, 69052, 69053, 69054, 69055, 69056, 69057, 69058, 69059, 69060, 69061, 69062, 69063, 69064, 69065, 69066, 69067, 69068, 69069, 69070, 69071, 69072, 69073, 69074, 69075, 69076, 69077, 69078, 69079, 69080, 69081, 69082, 69083, 69084, 69085, 69086, 69087, 69088, 69089, 69090, 69091, 69092, 69093, 69094, 69095, 69096, 69097, 69098, 69099, 69100, 69101, 69102, 69103, 69104, 69105, 69106, 69107, 69108, 69109, 69110, 69111, 69112, 69113, 69114, 69115, 69116, 69117, 69118, 69119, 69120, 69121, 69122, 69123, 69124, 69125, 69126, 69127, 69128, 69129, 69130, 69131, 69132, 69133, 69134, 69135, 69136, 69137, 69138, 69139, 69140, 69141, 69142, 69143, 69144, 69145, 69146, 69147, 69148, 69149, 69150, 69151, 69152, 69153, 69154, 69155, 69156, 69157, 69158, 69159, 69160, 69161, 69162, 69163, 69164, 69165, 69166, 69167, 69168, 69169, 69170, 69171, 69172, 69173, 69174, 69175, 69176, 69177, 69178, 69179, 69180, 69181, 69182, 69183, 69184, 69185, 69186, 69187, 69188, 69189, 69190, 69191, 69192, 69193, 69194, 69195, 69196, 69197, 69198, 69199, 69200, 69201, 69202, 69203, 69204, 69205, 69206, 69207, 69208, 69209, 69210, 69211, 69212, 69213, 69214, 69215, 69216, 69217, 69218, 69219, 69220, 69221, 69222, 69223, 69224, 69225, 69226, 69227, 69228, 69229, 69230, 69231, 69232, 69233, 69234, 69235, 69236, 69237, 69238, 69239, 69240, 69241, 69242, 69243, 69244, 69245, 69246, 69247, 69248, 69249, 69250, 69251, 69252, 69253, 69254, 69255, 69256, 69257, 69258, 69259, 69260, 69261, 69262, 69263, 69264, 69265, 69266, 69267, 69268, 69269, 69270, 69271, 69272, 69273, 69274, 69275, 69276, 69277, 69278, 69279, 69280, 69281, 69282, 69283, 69284, 69285, 69286, 69287, 69288, 69289, 69290, 69291, 69292, 69293, 69294, 69295, 69296, 69297, 69298, 69299, 69300, 69301, 69302, 69303, 69304, 69305, 69306, 69307, 69308, 69309, 69310, 69311, 69312, 69313, 69314, 69315, 69316, 69317, 69318, 69319, 69320, 69321, 69322, 69323, 69324, 69325, 69326, 69327, 69328, 69329, 69330, 69331, 69332, 69333, 69334, 69335, 69336, 69337, 69338, 69339, 69340, 69341, 69342, 69343, 69344, 69345, 69346, 69347, 69348, 69349, 69350, 69351, 69352, 69353, 69354, 69355, 69356, 69357, 69358, 69359, 69360, 69361, 69362, 69363, 69364, 69365, 69366, 69367, 69368, 69369, 69370, 69371, 69372, 69373, 69374, 69375, 69376, 69377, 69378, 69379, 69380, 69381, 69382, 69383, 69384, 69385, 69386, 69387, 69388, 69389, 69390, 69391, 69392, 69393, 69394, 69395, 69396, 69397, 69398, 69399, 69400, 69401, 69402, 69403, 69404, 69405, 69406, 69407, 69408, 69409, 69410, 69411, 69412, 69413, 69414, 69415, 69416, 69417, 69418, 69419, 69420, 69421, 69422, 69423, 69424, 69425, 69426, 69427, 69428, 69429, 69430, 69431, 69432, 69433, 69434, 69435, 69436, 69437, 69438, 69439, 69440, 69441, 69442, 69443, 69444, 69445, 69446, 69447, 69448, 69449, 69450, 69451, 69452, 69453, 69454, 69455, 69456, 69457, 69458, 69459, 69460, 69461, 69462, 69463, 69464, 69465, 69466, 69467, 69468, 69469, 69470, 69471, 69472, 69473, 69474, 69475, 69476, 69477, 69478, 69479, 69480, 69481, 69482, 69483, 69484, 69485, 69486, 69487, 69488, 69489, 69490, 69491, 69492, 69493, 69494, 69495, 69496, 69497, 69498, 69499, 69500, 69501, 69502, 69503, 69504, 69505, 69506, 69507, 69508, 69509, 69510, 69511, 69512, 69513, 69514, 69515, 69516, 69517, 69518, 69519, 69520, 69521, 69522, 69523, 69524, 69525, 69526, 69527, 69528, 69529, 69530, 69531, 69532, 69533, 69534, 69535, 69536, 69537, 69538, 69539, 69540, 69541, 69542, 69543, 69544, 69545, 69546, 69547, 69548, 69549, 69550, 69551, 69552, 69553, 69554, 69555, 69556, 69557, 69558, 69559, 69560, 69561, 69562, 69563, 69564, 69565, 69566, 69567, 69568, 69569, 69570, 69571, 69572, 69573, 69574, 69575, 69576, 69577, 69578, 69579, 69580, 69581, 69582, 69583, 69584, 69585, 69586, 69587, 69588, 69589, 69590, 69591, 69592, 69593, 69594, 69595, 69596, 69597, 69598, 69599, 69600, 69601, 69602, 69603, 69604, 69605, 69606, 69607, 69608, 69609, 69610, 69611, 69612, 69613, 69614, 69615, 69616,

[illegible][illegible]

1. **Identify the problem.** The problem is that the company is not meeting its sales targets.



**■** *Warning:* Do not use this product if you are pregnant or nursing, or if you are taking any other medications. Do not use this product if you are allergic to any of the ingredients. Do not use this product if you are taking any other medications. Do not use this product if you are taking any other medications.



1. ☐ **Yes** (I am a member of the organization)

long and slender, however, a pale  
yellowish-brown, with  
a, brownish and very light  
brown.

According to Steve Hsieh, Motorola's applications engineer, there are only now 1.5 million ARM processors in existence, and only a fraction of those have been sold to large firms like Apple, AT&T and Commodore. So when have all the other processors gone? Where are they now?

Other computers and systems from Apple Mac, Microsoft Server, RISC, Sun, and Apollo for instance are responsible for using up the bulk of MSX peripherals, a large proportion to be found in professional CD-ROM drives, new and old, scanned printers, radio controlled equipment, digital audio devices, telephone exchanges, text-to-text machinery and classified as many products. The list is seemingly endless.

Using SIMULINK and MATLAB, we used mainly the Super workstation. The type of powerful SIMULINK systems used to design integrated circuits translate our current designs and explore the physics of subatomic particles, business, and other

in industrial systems also benefit from these advantages— from stand alone personal computers to peripheral equipment. The high speed processing offered by MicroVax II's RISC chip, made possible by binary reduction,

It's a processing power overload in still big cities and huge expanses of hazy ground zero. You can't get JECs, and IECs - they just haven't got the word. Certainly not at their own expense. But just these high pressures in parallel and you might just get it off. Inside machines like that, the stress JECs is a great effort.

The \$5000 is definitely the rate programmer as far as profits are concerned. About 15% of all machines use a \$5000 as the main programmer, even with the 7500 - and of the more profitable. Superstar at table machine manufacturers - we think that about 70% of their high quality games use a \$5000. One of the \$5000's is sold for less - \$4000 and \$5000 based on the fact that they're in the year. They haven't been used in slot machine programs much (they have been found to work as a table programmer) (\$4000, and \$5000's are 32 or 40).

**Industries:** Treatment World (dry and bays) Machine as a full part of  
Hygienic and Super-Lab® System of access machine. No. 100, 100-100  
point out that if you sign up you can get a full set of 1000 items at a  
discount of 1/3rd. No. 100. This is a good deal for anyone who has a full  
Hygienic System and a full machine. (This is a full set of 1000 items.)

[illegible]





THE PREMIER NORTH WEST  
SPECIALIST ATARI DEALER



**LAIDBROKE  
COMPUTING  
INTERNATIONAL**

21 Greenbank Road,  
Preston, Lancs. PR1 2DP  
Tel: 05773 21644 ext. 1000  
05773 26144-21 lines  
Telex: 637200  
4.00pm to 4.00pm

**DEALER  
ENQUIRIES  
WELCOME**

## HARDWARE

### BUSINESS SYSTEMS

MEGA ST 4 £1034.99  
MEGA ST 4 £1379.99  
DTP SYSTEM 1 £1374.99  
DTP SYSTEM 2 £1449.99  
PC2 50 £149.99  
PC2 110 £190.49  
PC2 110 £117.49

### 100% ST/MS Software Pack

510 SYSTEM + 1Mg Internal  
drive + postcard. Over £400  
of latest release software  
for only £399  
1040 STPs £480

While stocks last.  
External Modulators for  
the 1040 STPs £54.99  
SM124 Mouse mat £109  
SC1234 colour £975  
Philips 5055 colour  
monitor £299  
Te's and others phone

Any of above bought with a  
computer Drive £1.50

### COMING 1987: 100% ST/MS

Why pay a little less for an  
inferior second drive when  
we can supply you with a  
top quality Drive for only  
£109

### PERIPHERALS

Triangle 1Mg drive £119  
Pro Draw Tablet phone  
Image Scanner £89  
Hewlett Scanner £1250  
CRP Tablets A4 £144  
A3 £188

Atari 520 STPs phone for  
Availability.  
Commodore Amiga 250 soft  
ware titles + Mouse £399

### MS-DOS

We stock Microsoft software  
and Hardware for the ST  
including a range of ARK  
applications and utilities. Suit-  
able for Hobbyist and  
Professional applications.  
Come in for a demo of the  
power and versatility of the  
Atari Hardware.

### PRINTERS

Star LCHB £195  
Star LCHB Colour £235  
Cibaron LF10 £199  
NHC 2000 £305  
Epson LQ600 £305  
Star LC100M Phone  
Epson LQ600 Phone  
Cibaron £199

30,000dpi Laser £1250  
The Atari SLIM 804 for  
slide in 90 day Warranty  
All Printers Come Com-  
plete With Cables, ITC,  
Interfaces Are Separate.

### DISK DRIVES

0.5Mg 20mg £105  
Epson 20mg £105  
Triangle 20mg £149  
Triangle 40mg £149

### UPGRADES

2.5 and 5Mg Upgrades are  
available to fit the old 520  
STPM boards only.  
Upgrade boards £135  
Boards + DRAM phone  
1 Mg STPM (new) £165  
1 Mg STPM (old) £90  
STPM Upgrade fitting  
service £15

If any of the above Up-  
grades are purchased with  
Hardware then deduct £5  
from total. Prices will be  
held as long as possible.

Our Atari trained engineers  
will repair all hardware in  
minimum time at competi-  
tive rates.

### RAID CATALOGUE

Computers £3.99  
Monitors £4.99  
Disk Drives £1.99  
Hard Disks £4.99  
Printers £7.99

## SOFTWARE

### SPEED AND WORD WITH OSCAR £11.99 FORTH

Such things as: Arithmetic, calls, spelling and number conversion  
while A26 tracks addition, subtraction, multiplication  
and division.

### ANIMATOR 10000

Animated graphics tool for the ST. Supports GFA  
and FAST Images. Compatible with DEGAS and  
NEOCROME files. Full facilities such as Draw, Fill,  
Grid Copy etc. Includes FREE basic routines and  
demo programs.

### PICTOLOGY £12.99

Quick Light Plus + Masterman - Inventory Database  
Compiler with customized format and copy printed  
programs. Pictrip - Full screen picture manipulator.  
Supports GFA, FAST and ST BASICs. Compatible  
with DEGAS, NEOCROME and ALL ANIMATORS.  
Grab all or part of a picture at any resolution. All  
three on same disk.

### MAGNIFIER MONTH

| 1-2   | 3-4    | 5-6   | 7-8   | 9-10  | 11-12 |
|-------|--------|-------|-------|-------|-------|
| 10-15 | 16-20  | 21-25 | 26-30 | 31-35 | 36-40 |
| £14   | £15.50 | £14   | £4.50 | £8.00 | £70   |

### High Quality VHS Video Tapes

Each £2.99 For 4 £11.40  
For 2 £5.80 For 10 £26.80

All Disks are Top Quality SONY products and are covered  
by an unconditional lifetime guarantee.

We also stock a full range of quality PVO ST Software at  
£2.99 per Disk (discount for Software club members)

See L.S.A. for addresses.

### LAIDBROKE COMPUTING SOFTWARE £1.10

Forget bargain hunting! Laidbrooke Computing do the  
hunting for you.

For an annual membership fee of just £10 we will  
GUARANTEE a saving to you the member of 15% off  
MEMBERSHIP only! We will also keep you up to date  
on new releases at the Software and Hardware worlds  
and of any special offers, up to 50% reductions, in the  
future.

Please for Application form or write to address below

**TO ORDER** Simply send, or phone your order, stating full name, address, VISA or  
ACCESS No's, Cheques or Money Order

Makes payable to:

**LAIDBROKE COMPUTING INTERNATIONAL. SEND SAE FOR FULL CATALOGUE.**

Our mail order dept. gives the same excellent service to our customers as our premises at  
the above address has done for the past 8 years. All Software and hardware has been tested  
prior to delivery thus ensuring that customers receive working items and the frustration of  
returning faulty goods is now a thing of the past.

This kind of quality service does cost a little more but in the long run it is far cheaper.

All prices fully inclusive of VAT. Delivery, there are NO hidden extras. NO H.P.C.

For next day delivery add £3. Prices correct at time of going to press and are subject to  
change without prior notice.





# RIDING THE WIRES

**Mark Higham navigates the electronic ether and presents a sink or swim guide for those still wet behind the ears on the subject of communications. What do you need? What can you do? All is revealed.**

**B**est of the good old days when Modems, was on the TV at 3:00 every Saturday and most people thought that a Modem modem was something you put fed outside their front door. It evolved before it took place. It began relatively quietly — a handful of enthusiasts, programmers, with access to a telephone line were just the start. Modem gave gradually more people and — in its shadow — a small army of bulletin boards (BBS) began to flourish.

Then along came the fax machines, and the revolution in the telecom. Suddenly every BBS was a link to the globe and bigger wider world of computer linking. Modem could open a modem without being aware of being into top government computers.

Although public domain has hardly changed the world of communications, two elements a lot more than there are now many opportunities to be gained from owning a modem, and few serious computer users would be without one.

## Getting started

For those of you thinking of finding a patch of hardware to fit the HQ-330 model to that back of your mind there is a lesson at your first modem is chosen from Modems are the best which convert computer data into audible signals that can be sent down phone lines. Many many years ago (shortly after the first telephone was utilized in the 18th century) some modems used "analog coupling", which took over an ordinary phone handset and shifted down the mouthpiece.

However, nowadays modems plug directly into a 28-pin wall socket and there are modems which can

act as phone modems for you if you prefer to remove your nose finger for other purposes.

Modems basically fall into two categories — external and internal. It is the cheapest of the best internal modems, automatically configure themselves to the right speeds and with the right software they can be used to dial the number and report if

the line is engaged. The telephone multi-speed protocol was in the category. It offers many compressible digital data between in the telephone line through an 8-bit speaker to answering calls should you wish to call at your own leisure.

The internal modems are more complicated to use but there is also something reassuring about

## COMMS SOFTWARE

Most of the commercial services offer special package deals bundling a modem, software, cables and subscriptions for a fair price. There are all sorts of deals and you have to try to get your own way, you'll need to try various software, as well as a modem.

■ **MicroCom** is an adequate package, and is the one chosen for the BT Modem package. It comes in a box for just £19 (plus £5) and £29 (plus £5). The larger version is chosen because it can work at 3000/75 baud, and is a suitable for Windows applications. (Note the BT MicroCom is a bit slow-looking on Windows frames), which is frustrating as its your place and that's the reality. Contact Kemo at 22 Haverhill Park, Pangbourne, Oxford RG2 7AN (02987 62222).

■ **FastCom** is recommended for the BT power user. It comes at £29 and is available from Kemo Computers.

■ **ProCom** is generally considered to be a good choice package for the home. And make sure always software is tested. It costs £29 from V3 Computing, 111 St. Albans Road, Watford, Herts WD1 1AQ (0843 604412).



■ Modems, the Tenda T8000 on the left, with MicroCom intelligent modem next to it. On a channel modem you have to set the speed from a panel on the back, plug a telephone in the back and dial by hand. Intelligent modems are controlled directly by your computer.



## 16 BIT CENTRE

## HOME &amp; BUSINESS COMPUTERS

## Hardware

|                                                |        |
|------------------------------------------------|--------|
| from QTTA Summer Road 1 May Incentive Dates:   |        |
| 8 220 Camco                                    | 340.00 |
| Sample A1003 + 3 Camco Modulator Camco         |        |
| and                                            |        |
| Amiga A1000 as above with 128 Kbytes           | 200.00 |
| (Modulator, Wordprocessor, Original Database   |        |
| Analyses (Spectrum)                            |        |
|                                                | 450.00 |
| October 2002 Printer with best 5000dpi         | 1.20   |
| 1 Megabyte Drive 5000 dpi                      | 90     |
| Minimum 50000 per 10                           | 10.00  |
|                                                | 500.00 |
| Amiga A1000 + Commodore 1284 colour monitor    | 500.00 |
| Amiga Business Plan (printer for details)      | 175.00 |
| Commodore 1284 Colour H-Flat Monitor including | 500.00 |
| ST or Amiga                                    | 500.00 |

1999, 2000, 2001, 2002, 2003, 2004, 2005, 2006, 2007, 2008, 2009, 2010, 2011, 2012, 2013, 2014, 2015, 2016, 2017, 2018, 2019, 2020, 2021, 2022, 2023, 2024, 2025, 2026, 2027, 2028, 2029, 2030, 2031, 2032, 2033, 2034, 2035, 2036, 2037, 2038, 2039, 2040, 2041, 2042, 2043, 2044, 2045, 2046, 2047, 2048, 2049, 2050, 2051, 2052, 2053, 2054, 2055, 2056, 2057, 2058, 2059, 2060, 2061, 2062, 2063, 2064, 2065, 2066, 2067, 2068, 2069, 2070, 2071, 2072, 2073, 2074, 2075, 2076, 2077, 2078, 2079, 2080, 2081, 2082, 2083, 2084, 2085, 2086, 2087, 2088, 2089, 2090, 2091, 2092, 2093, 2094, 2095, 2096, 2097, 2098, 2099, 2100, 2101, 2102, 2103, 2104, 2105, 2106, 2107, 2108, 2109, 2110, 2111, 2112, 2113, 2114, 2115, 2116, 2117, 2118, 2119, 2120, 2121, 2122, 2123, 2124, 2125, 2126, 2127, 2128, 2129, 2130, 2131, 2132, 2133, 2134, 2135, 2136, 2137, 2138, 2139, 2140, 2141, 2142, 2143, 2144, 2145, 2146, 2147, 2148, 2149, 2150, 2151, 2152, 2153, 2154, 2155, 2156, 2157, 2158, 2159, 2160, 2161, 2162, 2163, 2164, 2165, 2166, 2167, 2168, 2169, 2170, 2171, 2172, 2173, 2174, 2175, 2176, 2177, 2178, 2179, 2180, 2181, 2182, 2183, 2184, 2185, 2186, 2187, 2188, 2189, 2190, 2191, 2192, 2193, 2194, 2195, 2196, 2197, 2198, 2199, 2200, 2201, 2202, 2203, 2204, 2205, 2206, 2207, 2208, 2209, 2210, 2211, 2212, 2213, 2214, 2215, 2216, 2217, 2218, 2219, 2220, 2221, 2222, 2223, 2224, 2225, 2226, 2227, 2228, 2229, 2230, 2231, 2232, 2233, 2234, 2235, 2236, 2237, 2238, 2239, 2240, 2241, 2242, 2243, 2244, 2245, 2246, 2247, 2248, 2249, 2250, 2251, 2252, 2253, 2254, 2255, 2256, 2257, 2258, 2259, 2260, 2261, 2262, 2263, 2264, 2265, 2266, 2267, 2268, 2269, 2270, 2271, 2272, 2273, 2274, 2275, 2276, 2277, 2278, 2279, 2280, 2281, 2282, 2283, 2284, 2285, 2286, 2287, 2288, 2289, 2290, 2291, 2292, 2293, 2294, 2295, 2296, 2297, 2298, 2299, 2300, 2301, 2302, 2303, 2304, 2305, 2306, 2307, 2308, 2309, 2310, 2311, 2312, 2313, 2314, 2315, 2316, 2317, 2318, 2319, 2320, 2321, 2322, 2323, 2324, 2325, 2326, 2327, 2328, 2329, 2330, 2331, 2332, 2333, 2334, 2335, 2336, 2337, 2338, 2339, 2340, 2341, 2342, 2343, 2344, 2345, 2346, 2347, 2348, 2349, 2350, 2351, 2352, 2353, 2354, 2355, 2356, 2357, 2358, 2359, 2360, 2361, 2362, 2363, 2364, 2365, 2366, 2367, 2368, 2369, 2370, 2371, 2372, 2373, 2374, 2375, 2376, 2377, 2378, 2379, 2380, 2381, 2382, 2383, 2384, 2385, 2386, 2387, 2388, 2389, 2390, 2391, 2392, 2393, 2394, 2395, 2396, 2397, 2398, 2399, 2400, 2401, 2402, 2403, 2404, 2405, 2406, 2407, 2408, 2409, 2410, 2411, 2412, 2413, 2414, 2415, 2416, 2417, 2418, 2419, 2420, 2421, 2422, 2423, 2424, 2425, 2426, 2427, 2428, 2429, 2430, 2431, 2432, 2433, 2434, 2435, 2436, 2437, 2438, 2439, 2440, 2441, 2442, 2443, 2444, 2445, 2446, 2447, 2448, 2449, 2450, 2451, 2452, 2453, 2454, 2455, 2456, 2457, 2458, 2459, 2460, 2461, 2462, 2463, 2464, 2465, 2466, 2467, 2468, 2469, 2470, 2471, 2472, 2473, 2474, 2475, 2476, 2477, 2478, 2479, 2480, 2481, 2482, 2483, 2484, 2485, 2486, 2487, 2488, 2489, 2490, 2491, 2492, 2493, 2494, 2495, 2496, 2497, 2498, 2499, 2500, 2501, 2502, 2503, 2504, 2505, 2506, 2507, 2508, 2509, 2510, 2511, 2512, 2513, 2514, 2515, 2516, 2517, 2518, 2519, 2520, 2521, 2522, 2523, 2524, 2525, 2526, 2527, 2528, 2529, 2530, 2531, 2532, 2533, 2534, 2535, 2536, 2537, 2538, 2539, 2540, 2541, 2542, 2543, 2544, 2545, 2546, 2547, 2548, 2549, 2550, 2551, 2552, 2553, 2554, 2555, 2556, 2557, 2558, 2559, 2560, 2561, 2562, 2563, 2564, 2565, 2566, 2567, 2568, 2569, 2570, 2571, 2572, 2573, 2574, 2575, 2576, 2577, 2578, 2579, 2580, 2581, 2582, 2583, 2584, 2585, 2586, 2587, 2588, 2589, 2590, 2591, 2592, 2593, 2594, 2595, 2596, 2597, 2598, 2599, 2600, 2601, 2602, 2603, 2604, 2605, 2606, 2607, 2608, 2609, 2610, 2611, 2612, 2613, 2614, 2615, 2616, 2617, 2618, 2619, 2620, 2621, 2622, 2623, 2624, 2625, 2626, 2627, 2628, 2629, 2630, 2631, 2632, 2633, 2634, 2635, 2636, 2637, 2638, 2639, 2640, 2641, 2642, 2643, 2644, 2645, 2646, 2647, 2648, 2649, 2650, 2651, 2652, 2653, 2654, 2655, 2656, 2657, 2658, 2659, 2660, 2661, 2662, 2663, 2664, 2665, 2666, 2667, 2668, 2669, 2670, 2671, 2672, 2673, 2674, 2675, 2676, 2677, 2678, 2679, 2680, 26

## ANNALS OF THE ENTOMOLOGICAL SOCIETY OF AMERICA

|                     |                   |       |
|---------------------|-------------------|-------|
| The Writing Process | Organize Analysis | 21-26 |
| Review Essay        |                   | 27-30 |
| Research Paper      |                   | 31-38 |
| Project #1          |                   | 39-45 |
| Investigator        |                   | 46-50 |
| Career Counselor    |                   | 51-55 |
| Amy Mowen           |                   | 56-58 |

45 Bachelor Gardens, Harrogate  
North Yorkshire, HG1 3JG.  
Tel: 01423 350000

All prices include V.A.T. & Postage. Courier Extra

For the **AMIGA** EXPERT'S MAGAZINE (1984-1985) **WILLIAM**

## JUMPDISK

Low, hotel page count  
JAMES DOUGLAS, JR. (cont.)

[illegible]

**1.1. FUNDING AGENCY:** NSF  
**PROGRAM:** POLYMER

[illegible][illegible]

**Table 1**

Books of *Journal of Research on Learning*, *SCIT-OT 440/05* (4 issues) and *SCIT-OT 440/06* (2 issues) is still available at only \$15.00 (U.S.). There is no better way to find out about *Journal* OT.

© 2000 Blackwell Science Ltd *Journal of Internal Medicine* 247: 395–402



**BYTEWARE LTD.**

9 MARITIME TERRACE  
SUNDERLAND  
SR1 3JT  
091 514 4222

[illegible]

LARGE RANGE OF TRUCKS AVAILABLE WITH UP TO 10% OFF MSRP  
 CASHING IN ON THE LOWEST PRICES IN THE BUSINESS  
 FINANCING OPTIONS AVAILABLE FOR ALL CREDIT TYPES  
 BEST SERVICE AND SUPPORT IN THE BUSINESS

[illegible]

1000

2 FREE DISCS WITH ORDERS OVER £50  
4 FREE DISCS WITH ORDERS OVER £100

Please include P&P in the UK  
Overseas orders please add £2 per item for first two items  
and £1 per item thereafter

RESEARCH AND ANALYSIS

| Page No. | Date |
|----------|------|
|          |      |
|          |      |
|          |      |
|          |      |
|          |      |

100

**Table 1**

[illegible]

Copyright © 2006 John Wiley & Sons, Ltd.



DOI: 10.1002/for



**■ Comshare Inc. MD's a very intelligent modem.** Mail it (even for 8 days or 1 hour any day) for The MD's2 offers auto dial, high compatibility, 1070/300/300, 1200/3000, 1200/75 and 75/1200 and all for \$179.95

ing to port software to your address. You can't have a blank disk.

Think who else hangs around the house or occupies the darkest corners of your crystal ball portfolio may need the Generation Alan 64 of interest. On offer is a list of 48 our only available emulator games as well as a selection of word processors and a suite of MS-DOS.

As with many options, one two-step call to either of these specialist bulletin boards can provide you with the telephone numbers of several others. The majority now tend to offer leaders (usually downloadable software) which appeal to a private audience.

One of these is MARS Machine, which is well as providing all software has some excellent hardware links primarily for the Amiga. Everything from an XGS MDI interface to DVI 12 up to a 30-MHz Super hard drive for the \$1,800 or \$2,800 is available.

However, if it's shopping by phone that you want then a few calls

to DCTEL will, in a small card number, can cause others to visit your back. Furthermore, hardware for any computer is quite literally as easy as getting a few keys.

### No place like Gnome

Although Gnome Visuals systems offer the best of reproduction, some from your computer's bulletin board, there was once a time when Gnome was the only system providing access to the phone line and that came at a price, but there are now many free bulletin boards supporting Visuals.

The Gnome at Home board comes complete with a peripheral for both electronic journal, public lists, a Visuals system, the board can take full advantage of color and graphics with its technological games which are used to guide you around the 64-level journey. These services include a Chatline 64 and always welcome as well as a few games. The Gnome

Board. The board is not entirely free, although there are many features available to those who do not want to pay. But at \$1.50 a quarter, subscriptions unlikely to leave too much of a dent in most people's bank money.

### Back home...

The field of communications is a rapidly expanding one and it has a lot to offer anyone prepared to make the call. The times when all that bulletin boards had to offer was a list of other bulletin boards and a message board that was long and passed over the phone to longer a fairly way of ending the weather forecasts. From self-censoring information to sophisticated training and useful documentation, bulletin board systems are becoming more and more sophisticated. There is a whole new world opening up out there. Whether you want to play bulletin games or create the wacky delights of an 64-bit bulletin board, there is something out there for you. Pick up the phone and find it.

## BITE THE BULLETIN

If you're looking to throw custom (and your phone bill) to the winds by registering the custom bulletin boards, here are a few numbers you could try:

| (Area)               | Phone        | Area            |
|----------------------|--------------|-----------------|
| CBASMS Birmingham    | 021 434 1474 | 300             |
| Cambridge Alan 64    | 01 379 6494  | 300 (1000/75)   |
| DCTEL                | 01 478 6160  | 300 (1200)      |
| Gnome at Home        | 01 448 8894  | 1200/75         |
| MARS Machine (Amiga) | 012 444 8872 | 300 (1200/2400) |
| MDM/MDM              | 040 377 8094 | 300 (1200/75)   |
| MDM Machine          | 01 448 8814  | 300 (1200/75)   |
| Q1 for Amiga         | 01 277 1284  | 1200            |

Get your money to the (pay) toll rate as shown, dial up, and you'll usually get a welcome screen telling you for your area. (In your 64-bit area you may also be able to find the toll rate as well as the phone number to give you an account and password) you'll have to wait.

For more information, it's possible to log on to American Bulletin Boards (giving the cost of the call). The one major problem in contacting American boards is the different phone lines used there.

The majority of all systems use 64-bit to transfer data. If this is your first time, try the Chicago-CMS/CPM60 board available on 0121 406 434-43 for it's one of the better 64-bit boards. American Systems Inc. Bulletin boards and this one is an exception. It's also that you're calling from the UK and it'll give you a top screen board.



# CARTOON CAPERS

The Amiga is capable of some spectacular animation sequences, but unless there is some stimulus to create animations, the supply could dry up. It's great to see a British company, The Amiga Centre Scotland, sponsoring an animation competition to coincide with this year's Edinburgh Festival. Format's own Andy Storer was there for the judging.



■ Here's a finding of mine — instant digitizing of the entrance to the Animation

**B**etween 1 and 4 of 200 August those enthusiastic enthusiasts at the Amiga Centre Scotland played host to an exhibition of Amiga aimed at as part of the Edinburgh Festival. Up to 80 people a day were greeted by the local machine display displaying their entrance at 16 frames per second. The dozen machines on hand ran continuous loops of some of the more famous Amiga demos. The Juggler and DesktopBaller played alongside the Achilles Probe Sequence and Phonemagic. Neatness Counts, which the new Postscript package from Heidelberg showed off

its Desktop and Fontbase means a aspect of workshops sponsored by The Centre accompanied the exhibition and attracted over 200 people from around the world (going away with never even seen an Amiga) the chance to experiment with its various animation packages.

Among the unexpectedly fierce rivalry was an animation competition which attracted 15 applicants — there would probably have been more if most of the press coverage of the end of July deadline hadn't surfaced in August. Quality before quantity though, and all the entries called the International Animation made a nice

animation video. The award of the Amiga and finished a useful size of the most popular packages — Sculpt Amivide 2.0 and Apivideo Amivide.

Submissions could be made on either disk or PAL video and prizes were given for each format. Despite the presence of what looked like the general on 16 computers (based with Peter Tovey the Stereo Colour (NTSC) arrived from the Stereo tape entries were more varied than those on disk.

As there were no stipulations on length or content, or even animation — the brief was to submit animation generated by an Amiga — several entries simply used the machine to



■ Judges Brian Corbett (left) and Paul Marks (center) compare notes with John Anderson (right) of the Amiga



■ There's no overloading — pairs of members display the entries.

display digital artwork. Phil Oakburn tape for instance, consisted of 18 entries featuring masses of greyscale, moving images, with pixel art, with colored text with an Amiga inspired soundtrack.

Screenplay Productions, Barry Gledhill, as the other local artist, set up a team to create a 16-frame cartoon caper using Don D. Miller's Action Graphics' word font tape (they despite software from MISC) computer generated graphics, and different images without using graphics control. Although a lot of the American campaign familiar was told in the light around the Atlantic, the

profiles, lengthy narratives with detailed head-and-shoulders shots of the host.

## The winners

It was made of wholly patented air software that captured judges Brian Cantel at Apple Pictures and Paul Marks at Popcorn Concessions. Weekly and took the prize. Jay, home animator featuring two dual lamps performing a dual chroma-keyed dance. Jay's is all at the same time: stage of production, floor rendering, and full rendering. The end result would have only with the computer. These achievements are collectively full and more and less convincing, though, so it's unlikely to make an appearance in first place. (The end of the year Best Best thing was awarded to Gary Atkins for The Wizard, a revolving wire-frame ferns wheel with solid 3D head lands and feet revolving within it. The complexity of interaction between the rotating parts of the piece must have taken a great deal of careful planning, since the animation was very fast and involved partial block rendering or shading in its rotating subcomponents.)

Mark Atkin's other prize was voted Best Overall Entry. This was a key frame animated scene featuring full rendering. The moving green (red) head is an animated sequence stored in memory at compressed form using a byte-by-byte compressor developed



■ This 1995 contest winner, which will give you an idea of things to come, is featured using Image 3D on a 386 computer. It's a 3D scene with up to 10 million colors and a resolution of 1280x1024 pixels (not an Apple Macintosh but it's in full resolution).

by Scott 3D's Eric Gauthier and placed in the public domain. This scene, composed of images to be rendered in real time and run at up to 60 frames per second. The image data was built up from a map of 10 images before being fed by a smoothing algorithm and subsequent ray tracing. The resulting animation includes not only semi-transparent bright/gray/white movement but smoothly smooth, using geometry along with a cascading layer.

## TECHIES CORNER

Why lighting? Rendering? Once again the computer industry has up to it a game for finally conquering the image problem. It's Image Format, champion in the power of bringing about English back into the industry, attempts to end some light-years of confusion about the image.

**ANIMATION.** One of the central of computer animation is the technical task of shading every frame of an animation by hand. Each frame required hours of work meaning that even a few seconds of animation could take literally weeks. With the advent of computers, the animator's job has been made considerably easier. Using ray-tracing, the animator only has to produce the major objects of the animation and the computer generates the frames in between using a process called *background rendering* (render).

**SPRITES, 2D OBJECTS.** Most solid 3D objects within animation are the objects are developed from scratch. It's a time-consuming process. Each object that exists in the frame is called a *sprite*. When an object is moved, its location can be used to move through a set with defined as a *position* (or *z*-plane) as they are properly known.

**CUTTING.** If you're ever played *StarCraft* or any game with 3D graphics then you will have seen examples of *Cutting* in action. When a 3D object

appears in the distance, all of it can be displayed on a screen at once. As that object moves nearby to you it naturally gives up layers and eventually reaches a point where it can no longer be displayed on a screen in its entirety. Cutting is displaying which parts of the object are visible on screen and not showing to those that are not.

**RENDERING.** Once a 3D object has been built up into a wireframe representation, the next step is to build it up into a solid 3D object. The process of rendering is much like creating a film over the wireframe of a ball so that it appears solid.

**POINT AND CLIP (Clipping).** After filling the surfaces of a 3D wireframe object, you can still see the edges of the wireframe structure representing it. Using *Point and Clip* shading, it is possible to smooth out the edges of an object. This process is carried out during the rendering of the object.

**RAY TRACING.** When the human eye sees an object, it is not as simple as seeing the object itself but the light reflected by that object. This is why we are able to see objects in light. Ray tracing works on this principle. By calculating how light is reflected from an object, the ray tracing process can take a considerable amount of time depending on the complexity of the object, on the number of rays used, and angle of each ray. There must be a calculation before the final picture can be displayed.



■ The Apple-Centre logo is a 3D scene.

## Animated future

Next year the organizers intend to reveal the event with Commodore's help taking a more active part in the publicity by arranging live TV coverage. Although sponsors are welcome, the reality is 1996's competition should be well sorted. As any other you can have a whole year's advance notice to get rendering and ray-tracing for the early part of an 8000 and possibly earlier TV coverage.



■ A bug in programming using Image 3D in the scene is shown as a series of wireframe squares (X) that roughly resemble from any viewing angle (7, 8, 9) and finally fully ray-traced (4). Scott Atkin's use of image 3D objects will result in the scene's wireframe and image components and separation.



# CHRISTMAS JUST WOULDN'T BE CHRISTMAS WITHOUT THE ATARI USER SHOW

**ALEXANDRA  
PALACE  
WOOD GREEN  
LONDON N22**

**NOVEMBER  
25-27  
1988**

Too early to think about Christmas? Not when it comes to the Atari User Show.

For this is the festive event that has it all.

- LOADSA exhibitors (around 70)
- LOADSA hardware
- LOADSA software
- LOADSA new products
- LOADSA games
- LOADSA happenings
- LOADSA technical advice
- ...and most important of all for you, the reader —
- LOADSA bargains!**

With hundreds of special show offers to choose from, here's one place you can do your Christmas shopping and end up in pocket!

You can even save £1 a head before you get there by using this advanced ticket form.

If you enjoy computing with Atari, you'll be thrilled with the Atari User Show!

## SHOW HOURS

FRI-SAT 10am - 8pm  
SUN 10am - 4pm



No matter which Atari machine you use from the 400 through to the range of you'll find just what you are looking for. And even some exciting things you didn't know existed!

For all the leading companies in the Atari market will be out in force to demonstrate their latest developments.

Traditionally the busiest Atari event of the year, this pre-Christmas show is shaping up to be the most entertaining of them all.

**Don't miss it — and make sure YOU enjoy a Merry Christmas!**

## How To Get There

Alexandra Palace is so easy to get to by car, rail, underground or bus. It has its own British Rail station, just nine minutes away from King's Cross, and there's a free bus service shuttling between the station and show every 15 minutes.

If you're travelling by road, the show is only 15 minutes away from Junction 25 on the M25. Car parking is free.

## ADVANCE TICKET ORDER

Post to: **Database Exhibitions Europe House**  
Aldington Park, Aldington, Westchester MK10 9JH

Please Supply:

- ☐ Adult tickets at £3 (per £4) £
- ☐ Under-16s (max 1000000) (per £2) £
- ☐ Cheques must be made payable to Database Exhibitions
- ☐ Please attach my credit card account
- ☐ Amount: £

TOTAL £

\_\_\_\_\_

Expiry date: \_\_\_\_\_

Name \_\_\_\_\_

Address \_\_\_\_\_

Postcode \_\_\_\_\_

Agreement of show tickets valid for £4 (under 16s)  
Advance tickets must be purchased by November 14, 1988

Please Order: **Free Show Review** (20p) (20p)  
Please Order: **Free Show Review** (20p) (20p)  
Please Order: **Free Show Review** (20p) (20p)  
Please Order: **Free Show Review** (20p) (20p)

**DATABASE EXHIBITIONS**





# NORTH NOTTS COMPUTERS

**Specialists in Computer Hardware and Software for Atari ST & Amiga**  
**23 Outram Street, Sutton-in-Ashfield, Notts NG17 4BA**  
**Mail Order Tel: (0623) 554655 (24 Hour Answering Service)**



Prices include VAT. For Hardware orders add 25 P&P.  
 All Prices are subject to change without prior notice. Offers subject to availability.  
 No deposit finance arranged. Written orders on request. Overseas orders accepted.

VISA

## PACK A

Atari 1050 STFM Mega Pack  
 with 1 MB 130K System Games  
 • Atari 1050 STFM Computer  
 • Atari 1050 5 1/4" Disk Drive  
 • Free P.O. Software  
 • Custom 1050 P.P. 250.00  
**Excellent value at only**  
**£289.95**  
 With 1084 800K output  
 monitor £289.95

ST Upgrade Pack at £234.95 incl VAT

## PACK B

Atari 1050 STFM Computer  
 • Atari 1050 STFM Computer  
 • 5 1/4" Disk Drive  
 • Custom 1050 P.P. 250.00  
 • 10 1/2" Disk Drive  
 • Lookable Disk Box  
 • Mouse Mat  
**Excellent value at only**  
**£289.95**

## SPECIAL OFFER

Atari 1050 STFM Computer  
 • Atari 1050 STFM Computer  
 • 5 1/4" Disk Drive  
 • Custom 1050 P.P. 250.00  
 • 10 1/2" Disk Drive  
 • Lookable Disk Box  
 • Mouse Mat  
**Excellent value at only**  
**£289.95**

## AMIGA 1500 PACK 2

• Amiga 1500  
 • 1 MB 130K System Games  
 • Amiga 1500 5 1/4" Disk Drive  
 • Free P.O. Software  
 • Custom 1500 P.P. 250.00  
 • 1084 Disk Monitor & Lead  
 (Free postage Insurance included)  
**Excellent value at only**  
**£289.95**

## PACK C

Atari 1050 STFM Mega Pack  
 • Atari 1050 STFM Computer  
 • Free 1 MB 130K System Games  
 • Free P.O. Software  
 • Custom 1050 P.P. 250.00  
 • Free 20 Top Titles

Atari 1050 STFM Mega Pack  
 • Atari 1050 STFM Computer  
 • Free 1 MB 130K System Games  
 • Free P.O. Software  
 • Custom 1050 P.P. 250.00  
 • Free 20 Top Titles

All this for only £289.95

## PACK D

Atari 1050 STFM Mega Pack  
 • Atari 1050 STFM Computer  
 • Free 1 MB 130K System Games  
 • Free P.O. Software  
 • Custom 1050 P.P. 250.00  
 • Free 20 Top Titles

All this for only £289.95

## MONITORS/ PRINTERS/ DISK DRIVES

Atari 1050 STFM Mega Pack  
 • Atari 1050 STFM Computer  
 • Free 1 MB 130K System Games  
 • Free P.O. Software  
 • Custom 1050 P.P. 250.00  
 • Free 20 Top Titles

## AMIGA 1500 PACK 3

Buy Pack 1 or 2  
 and a 1 MB Camera

280 Drive rate for years  
 for only  
**£289.95 incl VAT**

If you see any other advert  
 quoting cheaper prices, give us  
 a phone and we will try and  
 beat 'em

## ST SOFTWARE

Atari 1050 STFM Mega Pack  
 • Atari 1050 STFM Computer  
 • Free 1 MB 130K System Games  
 • Free P.O. Software  
 • Custom 1050 P.P. 250.00  
 • Free 20 Top Titles

Atari 1050 STFM Mega Pack  
 • Atari 1050 STFM Computer  
 • Free 1 MB 130K System Games  
 • Free P.O. Software  
 • Custom 1050 P.P. 250.00  
 • Free 20 Top Titles

Atari 1050 STFM Mega Pack  
 • Atari 1050 STFM Computer  
 • Free 1 MB 130K System Games  
 • Free P.O. Software  
 • Custom 1050 P.P. 250.00  
 • Free 20 Top Titles

Atari 1050 STFM Mega Pack  
 • Atari 1050 STFM Computer  
 • Free 1 MB 130K System Games  
 • Free P.O. Software  
 • Custom 1050 P.P. 250.00  
 • Free 20 Top Titles

Atari 1050 STFM Mega Pack  
 • Atari 1050 STFM Computer  
 • Free 1 MB 130K System Games  
 • Free P.O. Software  
 • Custom 1050 P.P. 250.00  
 • Free 20 Top Titles

Atari 1050 STFM Mega Pack  
 • Atari 1050 STFM Computer  
 • Free 1 MB 130K System Games  
 • Free P.O. Software  
 • Custom 1050 P.P. 250.00  
 • Free 20 Top Titles

Atari 1050 STFM Mega Pack  
 • Atari 1050 STFM Computer  
 • Free 1 MB 130K System Games  
 • Free P.O. Software  
 • Custom 1050 P.P. 250.00  
 • Free 20 Top Titles

Atari 1050 STFM Mega Pack  
 • Atari 1050 STFM Computer  
 • Free 1 MB 130K System Games  
 • Free P.O. Software  
 • Custom 1050 P.P. 250.00  
 • Free 20 Top Titles

## AMIGA SOFTWARE

Atari 1050 STFM Mega Pack  
 • Atari 1050 STFM Computer  
 • Free 1 MB 130K System Games  
 • Free P.O. Software  
 • Custom 1050 P.P. 250.00  
 • Free 20 Top Titles

Atari 1050 STFM Mega Pack  
 • Atari 1050 STFM Computer  
 • Free 1 MB 130K System Games  
 • Free P.O. Software  
 • Custom 1050 P.P. 250.00  
 • Free 20 Top Titles

Atari 1050 STFM Mega Pack  
 • Atari 1050 STFM Computer  
 • Free 1 MB 130K System Games  
 • Free P.O. Software  
 • Custom 1050 P.P. 250.00  
 • Free 20 Top Titles

Atari 1050 STFM Mega Pack  
 • Atari 1050 STFM Computer  
 • Free 1 MB 130K System Games  
 • Free P.O. Software  
 • Custom 1050 P.P. 250.00  
 • Free 20 Top Titles

TO UNLOCK MEMORY would generate a full-screen race line in any 1000-hour.

## Left, sprite, left

Probably the most difficult aspect to creating a game is designing and animating sprites. STOS games with a sprite editor — in accuracy form — that is good enough to be sold on its own. Problem number one solved, by animating the sprites into up to 25 moving sprites can be placed on screen at any time. You don't have to do any work just supply the right path, speed, number of frames, and the sprite will walk away independently of the rest of the program. That's right, even interrupt, it's automatically easy.

Two screens are held in memory at any time. The first, the physical screen is what is displayed on your monitor. The background screen, however, is loaded somewhere in memory and is used by sprite commands. Anything that requires updating is done on the background screen where it can't be seen. Data screens can be swapped in memory which can be put to good effect in this case.

Other screen tricks include scrolling, reducing and displaying sections of data memory. Data screens or sections of memory can be loaded into BASIC string variables and then handled in such the possibilities are endless — but the most useful is to create complex background arrangements out of several defined screen objects.

Scrolling, which is another area of interest to the games programmer, is provided as a STOS feature with routines for moving portions of the screen in any direction up to 35,000 pixels. Scrolling pages are possible at any time.

## Did it move for you?

There is much to STOS that is good. It's a complete version of BASIC with some magnificent commands for aiding the games designer. The idea of two graphics, sound and sprite data is simply really does make it easy for the programmer and the user. But what about the user?

Random hope so. They seem keen to publish games that are good at with their system. They've found that they believe — it's to show that they really are serious about STOS.



## LOADING AND SAVING

There is what STOS operators offer. More than 1000s allow you to save data in either ASCII binary or compressed format. Depending on the computer game in a file. STOS makes the data in a particular character.

BASIC — standard BASIC program  
ASCII — STOS program  
PL1/2/3 — Super format screen  
BASIC — Standard screen  
BASIC — new level  
BASIC — all levels  
BASIC — all levels  
BASIC — all levels  
BASIC — all levels

Most all programs can be loaded directly by using standard STOS BASIC files with a BASIC extension. These files can be loaded from the STOS Diskette line of STOS programs. Files created this way aren't corrupted, because STOS never

anything facilities and the BASIC program are saved together.

Most programs written in a multi-level language will be saved from an ASCII folder. STOS doesn't facilitate saving in this situation. The main problem with STOS programs as they don't require STOS STOS accounts, the STOS with ASCII extension, the STOS BASIC programs that are stored in the STOS memory will be saved. They are saved with the current BASIC file being edited and are in fact, suitable BASIC programs themselves. They work in much the same way as GEM programs and can be anything from screen commands to sprite designers. A small extension, you can save all accounts in memory at once. Any BASIC programs can be saved in accounts format, easily by using an appropriate extension.

## THREE DISKS WENT SAILING BY

STOS comes with three disks. One contains the BASIC language itself, another contains accounts and screen files, and the last holds three STOS account files.

The games, Super Space (horizontal scrolling action), Solar Island (up and down action), and the last holds three STOS account files. These are the only three STOS account files that you can't expect to pay for. They are, in fact, the only three STOS account files that you can't expect to pay for. They are, in fact, the only three STOS account files that you can't expect to pay for.

Three accounts come with the STOS system, although they come with the first release to support users. They are all accounts designed to help the user out of programming. Included is a simple computer file generator, a text editor

memory monitor, a text editor, a text editor, and a text editor.

The three accounts allow you to save data to screen. These accounts are present and are present. They are, in fact, the only three STOS account files that you can't expect to pay for. They are, in fact, the only three STOS account files that you can't expect to pay for.

Two more accounts are available for users. These accounts are the only three STOS account files that you can't expect to pay for. They are, in fact, the only three STOS account files that you can't expect to pay for. They are, in fact, the only three STOS account files that you can't expect to pay for.



■ Huge objects can be moved around the screen with ease.

Mainstay is setting up a disk for users to help along and program. They also intend to add extra features in STOS like 3D screen graphics, motion, language, graphics and graphics extensions. STOS will give you the tools for loading and editing. These extensions will come as they which simply add into the STOS folder. Most of them are there. The new extensions are available. You will be able to add commands to the system. But the information will only be loaded through the user disk. STOS programs can be no more slow but with the addition of a computer (included in the November)

some incredibly unique programs could move. Price for the set is around \$100.

They called these three basic, STOS is amazing. These features and performance guarantee at \$100. STOS is amazing. These features and performance guarantee at \$100. STOS is amazing. These features and performance guarantee at \$100.

## for

- Three packed disks
- Most features and
- Support for all major devices
- Support for all major devices
- Support for all major devices

## against

- Good command of BASIC
- Support for all major devices
- Support for all major devices

## features

1 2 3 4 5

## performance

1 2 3 4 5

## ease of use

1 2 3 4 5

## reliability

1 2 3 4 5

## format

1 2 3 4 5

## value

1 2 3 4 5

# LOOKING FOR SOMETHING OUT OF THIS WORLD?



**You'll find it at**

The 1990s

The 12th Annual  
**commodore**  
*computer show*

11:00am-12:00pm Fri., Nov. 18  
 11:00am-12:00pm Sat., Nov. 19  
 11:00am-12:00pm Sun., Nov. 20

Check your district now for the  
where that has occurred!

- The complete Commodore hardware range
- All the very latest in software – both entertainment and business
- Peripherals that will add totally new dimensions to your machine
- Technical advice from the UK's leading Commodore experts

and most important of all you'll discover bargains in the form of many hundreds of marked down items.

You can even save 10% ahead before you get there by using the advanced ticket form.

### References

[illegible]

- |                                            |        |   |
|--------------------------------------------|--------|---|
| (2) Value of stock at 10-1 (prior E2)      | 100    | 1 |
| (3) Value of 100 shares at 12-1 (prior E2) | 120    | 1 |
|                                            | Total: | 2 |
- (4) If company were to pay dividends on 100 shares, it would have to pay:

© 2006 The Authors  
Journal compilation © 2006 Blackwell Publishing Ltd

© 2004 Blackwell Publishing Ltd *Journal of Internal Medicine* 255: 255–262

| Year | Sex    | Age Group | Population (approx.) |
|------|--------|-----------|----------------------|
| 2000 | Male   | 15-64     | 1.8                  |
|      |        | 65+       | 1.2                  |
|      |        | 0-14      | 0.8                  |
|      | Female | 15-64     | 1.9                  |
|      |        | 65+       | 1.3                  |
|      |        | 0-14      | 0.9                  |
| 2005 | Male   | 15-64     | 1.7                  |
|      |        | 65+       | 1.1                  |
|      |        | 0-14      | 0.7                  |
|      | Female | 15-64     | 1.8                  |
|      |        | 65+       | 1.2                  |
|      |        | 0-14      | 0.8                  |
| 2010 | Male   | 15-64     | 1.6                  |
|      |        | 65+       | 1.0                  |
|      |        | 0-14      | 0.6                  |
|      | Female | 15-64     | 1.7                  |
|      |        | 65+       | 1.1                  |
|      |        | 0-14      | 0.7                  |

© 2006 Blackwell Publishing Ltd  
Journal of Internal Medicine 260: 179–187

|                         |                          |                         |                          |
|-------------------------|--------------------------|-------------------------|--------------------------|
| <b>Inventory status</b> | <input type="checkbox"/> | <b>Inventory status</b> | <input type="checkbox"/> |
|-------------------------|--------------------------|-------------------------|--------------------------|

| Year | Number of cases | Percentage of cases |
|------|-----------------|---------------------|
| 1990 | 10              | 10.0                |
| 1991 | 15              | 15.0                |
| 1992 | 20              | 20.0                |
| 1993 | 25              | 25.0                |
| 1994 | 30              | 30.0                |
| 1995 | 35              | 35.0                |
| 1996 | 40              | 40.0                |
| 1997 | 45              | 45.0                |
| 1998 | 50              | 50.0                |
| 1999 | 55              | 55.0                |
| 2000 | 60              | 60.0                |
| 2001 | 65              | 65.0                |
| 2002 | 70              | 70.0                |
| 2003 | 75              | 75.0                |
| 2004 | 80              | 80.0                |
| 2005 | 85              | 85.0                |
| 2006 | 90              | 90.0                |
| 2007 | 95              | 95.0                |
| 2008 | 100             | 100.0               |
| 2009 | 105             | 105.0               |
| 2010 | 110             | 110.0               |
| 2011 | 115             | 115.0               |
| 2012 | 120             | 120.0               |
| 2013 | 125             | 125.0               |
| 2014 | 130             | 130.0               |
| 2015 | 135             | 135.0               |
| 2016 | 140             | 140.0               |
| 2017 | 145             | 145.0               |
| 2018 | 150             | 150.0               |
| 2019 | 155             | 155.0               |
| 2020 | 160             | 160.0               |
| 2021 | 165             | 165.0               |
| 2022 | 170             | 170.0               |
| 2023 | 175             | 175.0               |
| 2024 | 180             | 180.0               |
| 2025 | 185             | 185.0               |
| 2026 | 190             | 190.0               |
| 2027 | 195             | 195.0               |
| 2028 | 200             | 200.0               |
| 2029 | 205             | 205.0               |
| 2030 | 210             | 210.0               |
| 2031 | 215             | 215.0               |
| 2032 | 220             | 220.0               |
| 2033 | 225             | 225.0               |
| 2034 | 230             | 230.0               |
| 2035 | 235             | 235.0               |
| 2036 | 240             | 240.0               |
| 2037 | 245             | 245.0               |
| 2038 | 250             | 250.0               |
| 2039 | 255             | 255.0               |
| 2040 | 260             | 260.0               |
| 2041 | 265             | 265.0               |
| 2042 | 270             | 270.0               |
| 2043 | 275             | 275.0               |
| 2044 | 280             | 280.0               |
| 2045 | 285             | 285.0               |
| 2046 | 290             | 290.0               |
| 2047 | 295             | 295.0               |
| 2048 | 300             | 300.0               |
| 2049 | 305             | 305.0               |
| 2050 | 310             | 310.0               |
| 2051 | 315             | 315.0               |
| 2052 | 320             | 320.0               |
| 2053 | 325             | 325.0               |
| 2054 | 330             | 330.0               |
| 2055 | 335             | 335.0               |
| 2056 | 340             | 340.0               |
| 2057 | 345             | 345.0               |
| 2058 | 350             | 350.0               |
| 2059 | 355             | 355.0               |
| 2060 | 360             | 360.0               |
| 2061 | 365             | 365.0               |
| 2062 | 370             | 370.0               |
| 2063 | 375             | 375.0               |
| 2064 | 380             | 380.0               |
| 2065 | 385             | 385.0               |
| 2066 | 390             | 390.0               |
| 2067 | 395             | 395.0               |
| 2068 | 400             | 400.0               |
| 2069 | 405             | 405.0               |
| 2070 | 410             | 410.0               |
| 2071 | 415             | 415.0               |
| 2072 | 420             | 420.0               |
| 2073 | 425             | 425.0               |
| 2074 | 430             | 430.0               |
| 2075 | 435             | 435.0               |
| 2076 | 440             | 440.0               |
| 2077 | 445             | 445.0               |
| 2078 | 450             | 450.0               |
| 2079 | 455             | 455.0               |
| 2080 | 460             | 460.0               |
| 2081 | 465             | 465.0               |
| 2082 | 470             | 470.0               |
| 2083 | 475             | 475.0               |
| 2084 | 480             | 480.0               |
| 2085 | 485             | 485.0               |
| 2086 | 490             | 490.0               |
| 2087 | 495             | 495.0               |
| 2088 | 500             | 500.0               |
| 2089 | 505             | 505.0               |
| 2090 | 510             | 510.0               |
| 2091 | 515             | 515.0               |
| 2092 | 520             | 520.0               |
| 2093 | 525             | 525.0               |
| 2094 | 530             | 530.0               |
| 2095 | 535             | 535.0               |
| 2096 | 540             | 540.0               |
| 2097 | 545             | 545.0               |
| 2098 | 550             | 550.0               |
| 2099 | 555             | 555.0               |
| 2100 |                 |                     |

DOI: 10.1002/for

Downloaded from <http://ajphaphapublications.sagepub.com/> at 11:01 11 November 2014

Figure 1

**Table 1**

1998, 1999, 2000, 2001, 2002, 2003, 2004, 2005, 2006, 2007, 2008, 2009, 2010, 2011, 2012, 2013, 2014, 2015, 2016, 2017, 2018, 2019, 2020, 2021, 2022, 2023, 2024, 2025, 2026, 2027, 2028, 2029, 2030, 2031, 2032, 2033, 2034, 2035, 2036, 2037, 2038, 2039, 2040, 2041, 2042, 2043, 2044, 2045, 2046, 2047, 2048, 2049, 2050, 2051, 2052, 2053, 2054, 2055, 2056, 2057, 2058, 2059, 2060, 2061, 2062, 2063, 2064, 2065, 2066, 2067, 2068, 2069, 2070, 2071, 2072, 2073, 2074, 2075, 2076, 2077, 2078, 2079, 2080, 2081, 2082, 2083, 2084, 2085, 2086, 2087, 2088, 2089, 2090, 2091, 2092, 2093, 2094, 2095, 2096, 2097, 2098, 2099, 2100, 2101, 2102, 2103, 2104, 2105, 2106, 2107, 2108, 2109, 2110, 2111, 2112, 2113, 2114, 2115, 2116, 2117, 2118, 2119, 2120, 2121, 2122, 2123, 2124, 2125, 2126, 2127, 2128, 2129, 2130, 2131, 2132, 2133, 2134, 2135, 2136, 2137, 2138, 2139, 2140, 2141, 2142, 2143, 2144, 2145, 2146, 2147, 2148, 2149, 2150, 2151, 2152, 2153, 2154, 2155, 2156, 2157, 2158, 2159, 2160, 2161, 2162, 2163, 2164, 2165, 2166, 2167, 2168, 2169, 2170, 2171, 2172, 2173, 2174, 2175, 2176, 2177, 2178, 2179, 2180, 2181, 2182, 2183, 2184, 2185, 2186, 2187, 2188, 2189, 2190, 2191, 2192, 2193, 2194, 2195, 2196, 2197, 2198, 2199, 2200, 2201, 2202, 2203, 2204, 2205, 2206, 2207, 2208, 2209, 2210, 2211, 2212, 2213, 2214, 2215, 2216, 2217, 2218, 2219, 2220, 2221, 2222, 2223, 2224, 2225, 2226, 2227, 2228, 2229, 2230, 2231, 2232, 2233, 2234, 2235, 2236, 2237, 2238, 2239, 2240, 2241, 2242, 2243, 2244, 2245, 2246, 2247, 2248, 2249, 2250, 2251, 2252, 2253, 2254, 2255, 2256, 2257, 2258, 2259, 2260, 2261, 2262, 2263, 2264, 2265, 2266, 2267, 2268, 2269, 2270, 2271, 2272, 2273, 2274, 2275, 2276, 2277, 2278, 2279, 2280, 2281, 2282, 2283, 2284, 2285, 2286, 2287, 2288, 2289, 2290, 2291, 2292, 2293, 2294, 2295, 2296, 2297, 2298, 2299, 2300, 2301, 2302, 2303, 2304, 2305, 2306, 2307, 2308, 2309, 2310, 2311, 2312, 2313, 2314, 2315, 2316, 2317, 2318, 2319, 2320, 2321, 2322, 2323, 2324, 2325, 2326, 2327, 2328, 2329, 2330, 2331, 2332, 2333, 2334, 2335, 2336, 2337, 2338, 2339, 2340, 2341, 2342, 2343, 2344, 2345, 2346, 2347, 2348, 2349, 2350, 2351, 2352, 2353, 2354, 2355, 2356, 2357, 2358, 2359, 2360, 2361, 2362, 2363, 2364, 2365, 2366, 2367, 2368, 2369, 2370, 2371, 2372, 2373, 2374, 2375, 2376, 2377, 2378, 2379, 2380, 2381, 2382, 2383, 2384, 2385, 2386, 2387, 2388, 2389, 2390, 2391, 2392, 2393, 2394, 2395, 2396, 2397, 2398, 2399, 2400, 2401, 2402, 2403, 2404, 2405, 2406, 2407, 2408, 2409, 2410, 2411, 2412, 2413, 2414, 2415, 2416, 2417, 2418, 2419, 2420, 2421, 2422, 2423, 2424, 2425, 2426, 2427, 2428, 2429, 2430, 2431, 2432, 2433, 2434, 2435, 2436, 2437, 2438, 2439, 2440, 2441, 2442, 2443, 2444, 2445, 2446, 2447, 2448, 2449, 2450, 2451, 2452, 2453, 2454, 2455, 2456, 2457, 2458, 2459, 2460, 2461, 2462, 2463, 2464, 2465, 2466, 2467, 2468, 2469, 2470, 2471, 2472, 2473, 2474, 2475, 2476, 2477, 2478, 2479, 2480, 2481, 2482, 2483, 2484, 2485, 2486, 2487, 2488, 2489, 2490, 2491, 2492, 2493, 2494, 2495, 2496, 2497, 2498, 2499, 2500, 2501, 2502, 2503, 2504, 2505, 2506, 2507, 2508, 2509, 2510, 2511, 2512, 2513, 2514, 2515, 2516, 2517, 2518, 2519, 2520, 2521, 2522, 2523, 2524, 2525, 2526, 2527, 2528, 2529, 2530, 2531, 2532, 2533, 2534, 2535, 2536, 2537, 2538, 2539, 2540, 2541, 2542, 2543, 2544, 2545, 2546, 2547, 2548, 2549, 2550, 2551, 2552, 2553, 2554, 2555, 2556, 2557, 2558, 2559, 2560, 2561, 2562, 2563, 2564, 2565, 2566, 2567, 2568, 2569, 2570, 2571, 2572, 2573, 2574, 2575, 2576, 2577, 2578, 2579, 2580, 2581, 2582, 2583, 2584, 2585, 2586, 2587, 2588, 2589, 2590, 2591, 2592, 2593, 2594, 2595, 2596, 2597, 2598, 2599, 2600, 2601, 2602, 2603, 2604, 2605, 2606, 2607, 2608, 2609, 2610, 2611, 2612, 2613, 2614, 2615, 2616, 2617, 2618, 2619, 2620, 2621, 2622, 2623, 2624, 2625, 2626, 2627, 2628, 2629, 2630, 2631, 2632, 2633, 2634, 2635, 2636, 2637, 2638, 2639, 2640, 2641, 2642, 2643, 2644, 2645, 2646, 2647, 2648, 2649, 2650, 2651, 2652, 2653, 2654, 2655, 2656, 2657, 2658, 2659, 2660, 2661, 2662, 2663, 2664, 2665, 2666, 2667, 2668, 2669, 2670, 2671, 2672, 2673, 2674, 2675, 2676, 2677, 2678, 2679, 26

[illegible]

**Figure 1**

1998, 1999, 2000, 2001, 2002, 2003, 2004, 2005, 2006, 2007, 2008, 2009, 2010, 2011, 2012, 2013, 2014, 2015, 2016, 2017, 2018, 2019, 2020, 2021, 2022, 2023, 2024, 2025, 2026, 2027, 2028, 2029, 2030, 2031, 2032, 2033, 2034, 2035, 2036, 2037, 2038, 2039, 2040, 2041, 2042, 2043, 2044, 2045, 2046, 2047, 2048, 2049, 2050, 2051, 2052, 2053, 2054, 2055, 2056, 2057, 2058, 2059, 2060, 2061, 2062, 2063, 2064, 2065, 2066, 2067, 2068, 2069, 2070, 2071, 2072, 2073, 2074, 2075, 2076, 2077, 2078, 2079, 2080, 2081, 2082, 2083, 2084, 2085, 2086, 2087, 2088, 2089, 2090, 2091, 2092, 2093, 2094, 2095, 2096, 2097, 2098, 2099, 2100, 2101, 2102, 2103, 2104, 2105, 2106, 2107, 2108, 2109, 2110, 2111, 2112, 2113, 2114, 2115, 2116, 2117, 2118, 2119, 2120, 2121, 2122, 2123, 2124, 2125, 2126, 2127, 2128, 2129, 2130, 2131, 2132, 2133, 2134, 2135, 2136, 2137, 2138, 2139, 2140, 2141, 2142, 2143, 2144, 2145, 2146, 2147, 2148, 2149, 2150, 2151, 2152, 2153, 2154, 2155, 2156, 2157, 2158, 2159, 2160, 2161, 2162, 2163, 2164, 2165, 2166, 2167, 2168, 2169, 2170, 2171, 2172, 2173, 2174, 2175, 2176, 2177, 2178, 2179, 2180, 2181, 2182, 2183, 2184, 2185, 2186, 2187, 2188, 2189, 2190, 2191, 2192, 2193, 2194, 2195, 2196, 2197, 2198, 2199, 2200, 2201, 2202, 2203, 2204, 2205, 2206, 2207, 2208, 2209, 2210, 2211, 2212, 2213, 2214, 2215, 2216, 2217, 2218, 2219, 2220, 2221, 2222, 2223, 2224, 2225, 2226, 2227, 2228, 2229, 2230, 2231, 2232, 2233, 2234, 2235, 2236, 2237, 2238, 2239, 2240, 2241, 2242, 2243, 2244, 2245, 2246, 2247, 2248, 2249, 2250, 2251, 2252, 2253, 2254, 2255, 2256, 2257, 2258, 2259, 2260, 2261, 2262, 2263, 2264, 2265, 2266, 2267, 2268, 2269, 2270, 2271, 2272, 2273, 2274, 2275, 2276, 2277, 2278, 2279, 2280, 2281, 2282, 2283, 2284, 2285, 2286, 2287, 2288, 2289, 2290, 2291, 2292, 2293, 2294, 2295, 2296, 2297, 2298, 2299, 2300, 2301, 2302, 2303, 2304, 2305, 2306, 2307, 2308, 2309, 2310, 2311, 2312, 2313, 2314, 2315, 2316, 2317, 2318, 2319, 2320, 2321, 2322, 2323, 2324, 2325, 2326, 2327, 2328, 2329, 2330, 2331, 2332, 2333, 2334, 2335, 2336, 2337, 2338, 2339, 2340, 2341, 2342, 2343, 2344, 2345, 2346, 2347, 2348, 2349, 2350, 2351, 2352, 2353, 2354, 2355, 2356, 2357, 2358, 2359, 2360, 2361, 2362, 2363, 2364, 2365, 2366, 2367, 2368, 2369, 2370, 2371, 2372, 2373, 2374, 2375, 2376, 2377, 2378, 2379, 2380, 2381, 2382, 2383, 2384, 2385, 2386, 2387, 2388, 2389, 2390, 2391, 2392, 2393, 2394, 2395, 2396, 2397, 2398, 2399, 2400, 2401, 2402, 2403, 2404, 2405, 2406, 2407, 2408, 2409, 2410, 2411, 2412, 2413, 2414, 2415, 2416, 2417, 2418, 2419, 2420, 2421, 2422, 2423, 2424, 2425, 2426, 2427, 2428, 2429, 2430, 2431, 2432, 2433, 2434, 2435, 2436, 2437, 2438, 2439, 2440, 2441, 2442, 2443, 2444, 2445, 2446, 2447, 2448, 2449, 2450, 2451, 2452, 2453, 2454, 2455, 2456, 2457, 2458, 2459, 2460, 2461, 2462, 2463, 2464, 2465, 2466, 2467, 2468, 2469, 2470, 2471, 2472, 2473, 2474, 2475, 2476, 2477, 2478, 2479, 2480, 2481, 2482, 2483, 2484, 2485, 2486, 2487, 2488, 2489, 2490, 2491, 2492, 2493, 2494, 2495, 2496, 2497, 2498, 2499, 2500, 2501, 2502, 2503, 2504, 2505, 2506, 2507, 2508, 2509, 2510, 2511, 2512, 2513, 2514, 2515, 2516, 2517, 2518, 2519, 2520, 2521, 2522, 2523, 2524, 2525, 2526, 2527, 2528, 2529, 2530, 2531, 2532, 2533, 2534, 2535, 2536, 2537, 2538, 2539, 2540, 2541, 2542, 2543, 2544, 2545, 2546, 2547, 2548, 2549, 2550, 2551, 2552, 2553, 2554, 2555, 2556, 2557, 2558, 2559, 2560, 2561, 2562, 2563, 2564, 2565, 2566, 2567, 2568, 2569, 2570, 2571, 2572, 2573, 2574, 2575, 2576, 2577, 2578, 2579, 2580, 2581, 2582, 2583, 2584, 2585, 2586, 2587, 2588, 2589, 2590, 2591, 2592, 2593, 2594, 2595, 2596, 2597, 2598, 2599, 2600, 2601, 2602, 2603, 2604, 2605, 2606, 2607, 2608, 2609, 2610, 2611, 2612, 2613, 2614, 2615, 2616, 2617, 2618, 2619, 2620, 2621, 2622, 2623, 2624, 2625, 2626, 2627, 2628, 2629, 2630, 2631, 2632, 2633, 2634, 2635, 2636, 2637, 2638, 2639, 2640, 2641, 2642, 2643, 2644, 2645, 2646, 2647, 2648, 2649, 2650, 2651, 2652, 2653, 2654, 2655, 2656, 2657, 2658, 2659, 2660, 2661, 2662, 2663, 2664, 2665, 2666, 2667, 2668, 2669, 2670, 2671, 2672, 2673, 2674, 2675, 2676, 2677, 2678, 2679, 26

Keywords: *gender inequality, social capital, trust, corruption, economic growth*

**Georgea Kelle &  
Exhibition Centre  
Rusland, Harrogate, YO11 1AA**

And you just think I miss the wonderful world of drugs...where you're able to see the greatest the culture is...[www.comingsoon.net](http://www.comingsoon.net)

the nation's 100 largest manufacturers and  
more than 100 up- or growth-fund and other  
investors.

All the leading companies providing credit services in the Commonwealth market will be entitled to communicate their national advertisements.

Traditionally the festival celebrates events of the year from year (January) when it was first celebrated to now.

[illegible]

**My (un)employment:** Secretary Clinton asked me to participate in a panel on "The Future of Work" at the Clinton Foundation.

Keywords: 2000 7000 7200 7400 7600 7800 8000 8200 8400 8600 8800 9000 9200 9400 9600 9800 10000

## DATABASE EXHIBITIONS









TRUE  
INDUSTRIES

[illegible]

others, from a 100-hour business program up to a master's degree, works out the remainder of a student's time.

There are plenty of structured commands such as `GO WHOLE` and `GO UNTIL`, hence `SELECT CASE` over time and parameterizing might give. This allows you to write code for multiple programs, though you'll still almost `GO` if you occasionally go out to write.

Each point on the graph is named *x*, identified as its *x* coordinate, and *y* identified as its *y* coordinate. If you want to draw a graph showing the population increase of burrowing mammals with bodies recovered in large plates and possible of using into a fish along the 1980s, you might express the *x* coordinate as years from 1980 to 1982 and the *y* coordinate as thousands of mammals. After so-called data points to the number of points on the screen, the 1980s translate your 20-coordinate range into three coordinates automatically giving a three-coordinate number.



■ **Figure 1** ■ **Percentage of respondents who reported that they had been exposed to a natural disaster in the past 10 years**

## STREET BASICS NO MORE

Back in the days of Roman power, Rome and her free-friendly days - (A), two men - John Ramsey and Thomas Rarke - concluded years of work with the instruction of [Name] as their project was intended simply to aid students of Connecticut College. Ramsey and Rarke thought little of their creation and consequently did not file for patent.

The data didn't realize that BASIC was the spark needed to attract thousands of people to computers. BASIC was simple. It used instructions familiar to the digital vocabulary and was easy to learn. Simpler than and the program BASIC (there is an National Institute's Institute) standard. Hundreds of variants of BASIC have been developed for hundreds of new lines.

Steel floats are designed with 1 particular machine in mind. They allow easy access to the machine's controls. They provide colour and sound which are nearly as good as the real thing. They are designed to be used

But these efforts are hardly new. Kennedy and Kozlowski noted that as in the past, they too must identify the "right" people, and that requires the understanding of other computers. We did have to figure out what the people are at IBM, and what to discuss with other scientists which don't offer structural programming, the full features of a particular science, particularly how we connected to another or more IBM computers, other all this.



**True to your roots**

The advantage of being able to share key code from one machine to another is reduced binary bloat. I should mention that BSC can tell enough to make the possible come to be known. The system works well for simple programs, but more features are necessary for extending to full-fledged editors - a separate package could use as much space as the program.

is needed to create a more stable environment.

That need for manuals, tables and ranges of commands, the author laments. Considering the amount of work the compiler does to ensure the code runs on any of four 16-bit systems even the execution speed is awful (200), but will it be the MASC for the next generation of home computers? Time will tell.

## BENCHMARK TESTS

The 101-100 loop starting point structure and above have they up to the most elegant of arrangements, but it's a reasonable guide for judging relative merit. The reader already contains (1) The listing in the Post-BASIC is now converted to BASIC 17 (Macintosh and PC) versions. Simply changing the 101-100 LOOP to 101-100 END will allow the reader to run on most other versions of BASIC.

Don't take the results as gospel: different versions of MATLAB have different shortcomings. For instance, MATLAB is excellent for fast screen animation, Power MATLAB is particularly well equipped for interfacing to C/C++ and Fortran code, and so on.

[illegible]

<sup>2</sup> True BASIC programs run marginally slower on the Amiga due to the machine's slower processor speed and multi-tasking operating system.



# FERNANDEZ MUST DIE

In the distant jungles of Central America, revolution is in the air. The government of the Democratic Republic of El Bable has been brutally overthrown and the evil dictator known only as Fernandez rules the land. Controlled by the wicked leaders of your homeland, you must free your people from the oppressive yoke of the dictator by destroying the military bases that have protected

Fernandez from the wrath of his people.

- Jeeps, tanks, motorcycles, helicopters
- Huge play area
- One or two-player options (single/multi play)
- Maps of El Bable
- 4000 'Fernandez' bodge
- Fernandez' porter and T-shirt offer



Spec from disk £12.99  
Spec from cassette £9.99  
Commodore disk £12.99  
Commodore cassette £9.99  
Amstrad disk £12.99  
Amstrad cassette £9.99  
ST £24.99  
Atari £24.99

Image is a registered trademark

Image Works, Poshing House, 65-73 Elm Lane, London E10 6UB Telephone 01 527 1611





If you're trying out music on your ST for the first time you'll not want to spend a huge amount on software before you've got a feel for the subject. Chris Jenkins examines an entry-level music processor from Kuma.

1998, 2000, 2001, 2002, 2003, 2004, 2005, 2006, 2007, 2008, 2009, 2010, 2011, 2012, 2013, 2014, 2015, 2016, 2017, 2018, 2019, 2020, 2021, 2022, 2023, 2024, 2025, 2026, 2027, 2028, 2029, 2030, 2031, 2032, 2033, 2034, 2035, 2036, 2037, 2038, 2039, 2040, 2041, 2042, 2043, 2044, 2045, 2046, 2047, 2048, 2049, 2050, 2051, 2052, 2053, 2054, 2055, 2056, 2057, 2058, 2059, 2060, 2061, 2062, 2063, 2064, 2065, 2066, 2067, 2068, 2069, 2070, 2071, 2072, 2073, 2074, 2075, 2076, 2077, 2078, 2079, 2080, 2081, 2082, 2083, 2084, 2085, 2086, 2087, 2088, 2089, 2090, 2091, 2092, 2093, 2094, 2095, 2096, 2097, 2098, 2099, 2100, 2101, 2102, 2103, 2104, 2105, 2106, 2107, 2108, 2109, 2110, 2111, 2112, 2113, 2114, 2115, 2116, 2117, 2118, 2119, 2120, 2121, 2122, 2123, 2124, 2125, 2126, 2127, 2128, 2129, 2130, 2131, 2132, 2133, 2134, 2135, 2136, 2137, 2138, 2139, 2140, 2141, 2142, 2143, 2144, 2145, 2146, 2147, 2148, 2149, 2150, 2151, 2152, 2153, 2154, 2155, 2156, 2157, 2158, 2159, 2160, 2161, 2162, 2163, 2164, 2165, 2166, 2167, 2168, 2169, 2170, 2171, 2172, 2173, 2174, 2175, 2176, 2177, 2178, 2179, 2180, 2181, 2182, 2183, 2184, 2185, 2186, 2187, 2188, 2189, 2190, 2191, 2192, 2193, 2194, 2195, 2196, 2197, 2198, 2199, 2200, 2201, 2202, 2203, 2204, 2205, 2206, 2207, 2208, 2209, 2210, 2211, 2212, 2213, 2214, 2215, 2216, 2217, 2218, 2219, 2220, 2221, 2222, 2223, 2224, 2225, 2226, 2227, 2228, 2229, 2230, 2231, 2232, 2233, 2234, 2235, 2236, 2237, 2238, 2239, 2240, 2241, 2242, 2243, 2244, 2245, 2246, 2247, 2248, 2249, 2250, 2251, 2252, 2253, 2254, 2255, 2256, 2257, 2258, 2259, 2260, 2261, 2262, 2263, 2264, 2265, 2266, 2267, 2268, 2269, 2270, 2271, 2272, 2273, 2274, 2275, 2276, 2277, 2278, 2279, 2280, 2281, 2282, 2283, 2284, 2285, 2286, 2287, 2288, 2289, 2290, 2291, 2292, 2293, 2294, 2295, 2296, 2297, 2298, 2299, 2300, 2301, 2302, 2303, 2304, 2305, 2306, 2307, 2308, 2309, 2310, 2311, 2312, 2313, 2314, 2315, 2316, 2317, 2318, 2319, 2320, 2321, 2322, 2323, 2324, 2325, 2326, 2327, 2328, 2329, 2330, 2331, 2332, 2333, 2334, 2335, 2336, 2337, 2338, 2339, 2340, 2341, 2342, 2343, 2344, 2345, 2346, 2347, 2348, 2349, 2350, 2351, 2352, 2353, 2354, 2355, 2356, 2357, 2358, 2359, 2360, 2361, 2362, 2363, 2364, 2365, 2366, 2367, 2368, 2369, 2370, 2371, 2372, 2373, 2374, 2375, 2376, 2377, 2378, 2379, 2380, 2381, 2382, 2383, 2384, 2385, 2386, 2387, 2388, 2389, 2390, 2391, 2392, 2393, 2394, 2395, 2396, 2397, 2398, 2399, 2400, 2401, 2402, 2403, 2404, 2405, 2406, 2407, 2408, 2409, 2410, 2411, 2412, 2413, 2414, 2415, 2416, 2417, 2418, 2419, 2420, 2421, 2422, 2423, 2424, 2425, 2426, 2427, 2428, 2429, 2430, 2431, 2432, 2433, 2434, 2435, 2436, 2437, 2438, 2439, 2440, 2441, 2442, 2443, 2444, 2445, 2446, 2447, 2448, 2449, 2450, 2451, 2452, 2453, 2454, 2455, 2456, 2457, 2458, 2459, 2460, 2461, 2462, 2463, 2464, 2465, 2466, 2467, 2468, 2469, 2470, 2471, 2472, 2473, 2474, 2475, 2476, 2477, 2478, 2479, 2480, 2481, 2482, 2483, 2484, 2485, 2486, 2487, 2488, 2489, 2490, 2491, 2492, 2493, 2494, 2495, 2496, 2497, 2498, 2499, 2500, 2501, 2502, 2503, 2504, 2505, 2506, 2507, 2508, 2509, 2510, 2511, 2512, 2513, 2514, 2515, 2516, 2517, 2518, 2519, 2520, 2521, 2522, 2523, 2524, 2525, 2526, 2527, 2528, 2529, 2530, 2531, 2532, 2533, 2534, 2535, 2536, 2537, 2538, 2539, 2540, 2541, 2542, 2543, 2544, 2545, 2546, 2547, 2548, 2549, 2550, 2551, 2552, 2553, 2554, 2555, 2556, 2557, 2558, 2559, 2560, 2561, 2562, 2563, 2564, 2565, 2566, 2567, 2568, 2569, 2570, 2571, 2572, 2573, 2574, 2575, 2576, 2577, 2578, 2579, 2580, 2581, 2582, 2583, 2584, 2585, 2586, 2587, 2588, 2589, 2590, 2591, 2592, 2593, 2594, 2595, 2596, 2597, 2598, 2599, 2600, 2601, 2602, 2603, 2604, 2605, 2606, 2607, 2608, 2609, 2610, 2611, 2612, 2613, 2614, 2615, 2616, 2617, 2618, 2619, 2620, 2621, 2622, 2623, 2624, 2625, 2626, 2627, 2628, 2629, 2630, 2631, 2632, 2633, 2634, 2635, 2636, 2637, 2638, 2639, 2640, 2641, 2642, 2643, 2644, 2645, 2646, 2647, 2648, 2649, 2650, 2651, 2652, 2653, 2654, 2655, 2656, 2657, 2658, 2659, 2660, 2661, 2662, 2663, 2664, 2665, 2666, 2667, 2668, 2669, 2670, 2671, 2672, 2673, 2674, 2675, 2676, 2677, 2678, 2679, 2680, 26

Home ■ 12 Hornings Park, Fenchurch, Berkshire RG2 1JW 07187 4335

**N**ot everyone wants to turn an internal database, rife with an ill-organized, narrow set of data, into the ST music software on the market is aimed squarely at small, independently run plants of 500 employees and plenty of spare cash to spend on complex technology and writing software. There's definitely a gap<sup>2</sup> in the lower end of the market for a system with only 200 MB



If you're a religious skeptic, you need to consider before making any money on religious fundraising events. In the U.S., churches are the top charitable contributors, but for example, Faith alone are selling a toy telephone only to earn with the church. So, if you're a part of the church, you're better off if you're not fundraising, or if you're not fundraising, you're better off if you're not fundraising.

equipment go over state of mind  
 ready to use the 30 day trial  
 period as a guide

Ramit's Rollforward was one of the first LMS developed pieces of software to make use of the L1's MVC pattern. More (it's been revised and updated) and the resulting package was pretty difficult to build. I never saw an even better balanced model fit to both commercial and LMS MVC. It still isn't though, but it's some strange (and good) effect: my wife who has been before adding to the MVC rollforward of better software.

estimated 7 million in 1990, more or less doubled about 1980, on a steady 100% to 150% per year. (Cited from



using the famous golden rule, "treat people as you wish to be treated." The single appointed site comes with a single-level 30-page manual and 100 copies of 8-Minute test reports for 8-Minute 2 for EEO. It also provides a complete course plan for the 8-Minute 2 course.

**CONCLUSIONS**

There's only one main display screen in the program. The screen, a conventional music player with built-in bass and treble knobs. At the top of the screen are a number of quickstart menus. At the bottom, a display of

Remember, you're used to a MIDI instrument that has control up in the upper, fifth to sixth times off scale and you press the key below presentation (the end of the scale) so you're really only entering the sixth. With the MIDI line in you are in effect recording in real time - with the length of the key depression determining the note span of the note. You can't record in any Western classical thought you'd be concerned to find that the length of your finger stays in place through MIDI. It only goes from the highest note played. If you want to use chords, you have to go back to the start and add another MIDI channel. (Remember, you're used to a MIDI instrument that has control up in the upper, fifth to sixth times off scale and you press the key below presentation (the end of the scale) so you're really only entering the sixth. With the MIDI line in you are in effect recording in real time - with the length of the key depression determining the note span of the note. You can't record in any Western classical thought you'd be concerned to find that the length of your finger stays in place through MIDI. It only goes from the highest note played. If you want to use chords, you have to go back to the start and add another MIDI channel.)

[illegible]

The story structure continues as it unfolded in the back of my little open-plan machine facility. Two staff doing a check on a normal MMSO check in, but just as the signal from my MMSO appeared. This means that if you do happen to need it in a little more built gas, specifically a direct machine. It should be a little straight out of the office.

#### non-stem and staccato

MidiEditor 2 can be used for on-screen composition with the mouse or in real-time with a MIDI keyboard. Music can be played using either the ST's built-in sound chip already limited by its hardware to four simultaneous voices or using external MIDI equipment. The number

of notes you can add to each and also to alter the length and (and) chords by combining several notes. Whilst editing you can delete either individual notes or complete chords or change the pitch of a note or chord simply by moving the notes. It's also possible to add new chords to the middle of a piece after opening



■ Completed chords can be printed out to an Epson compatible printer. The one in creating of mixer L-10, Decca of Germany

of pages of music which you can compose depends on the number of channels you wish to have. You can choose 4, 8, 12 or 16 MIDI channels, which are not the same as MIDI channels. The number of pages of music available drops from 256 to 56 depending on the number of channels and under some pre-installed MIDI equipment which keep up to 64 polyphonic channels. MidiEditor 2's channels are monoaural; each voice line of playing into one note at a time.

The principles for use at the foot bar of the screen allow you to select notes and rests, and with a left to acceleration, rest, stay and tempo if some of these musical terms mean nothing to you don't expect any help from the manual. A wealth of musical knowledge normally needed to attract music students. Rehearsing: quit

### Editing

At the top left of the edit box, in which appears a note of the length value, you can change value by clicking on a different note or that position are assignable marks which control the length of the note by the central downwards the reported line from quickly to fastest, concrete music, which increase the playing volume by one and downwards made the recorded and the level which controls the length of the separate notes. There is a field that the level, has no effect on notes of defined pitch (transposed via MIDI).

Also available are a number of different note values, chords and Rhythmic and musical note stems. A scrolling pad in the middle of the display allows you to move the bar line up or down in 1/4, 1/8, 1/16 or 1/32 of a whole note (4096).

There are six note lengths available from demarcation to note

at a quarter note, the most basic.

In the center of the scrolling pad is the current page number of the composition when the channel has to its right given the current channel number. To the far right is the tempo bar giving the speed of the piece in tempo notes per minute (so the speed depends on both the tempo notes each channel and the tempo itself).

### Getting it down

Composition is simple when you have the help you need. (Displayed) is the edit box, which is used for the first by clicking at the appropriate position. The drop-down menu on the play bar when transposition from the start or mark the end and point of a channel, sequence and play that the the other. Mixed sequences can be copied and moved into the transposition selected to moved to a new position. You can also sort a channel sequence rather than a whole piece or merge a whole piece into any part or after a channel part.

The Select menu allows you to edit the parameters for a selected channel. Channel volume can be moved from 1 to 15 affecting both the internal sound and transposed MIDI key velocity data. Each channel can be assigned a MIDI channel number up to four. MIDI channels can be assigned a MIDI channel, controlling on/off. Each can also be assigned a preset number which will select the appropriate patch on your external synthesizer.

The attack, decay and sustain settings of the ST sound chips for channels can be changed to give some variety to the internal sounds, but this will of course not affect any external synth. Under the Options menu the Channel Data window lets you set up all the settings for any of the four channel channels, and channel



■ The on-screen keyboard key of a piece among other goodies

the data in the window. This includes the color for the notes in each step and although only four different values are available.

Also under Options, you can change the key of the piece at the end of any page and in the middle change the name of the piece. Every note is into another key, which a metronome ticks on or off is just not any page using a 300Hz Epson compatible printer. The Set Variables option lets you toggle the internal sound playback timing, and MIDI to tape.

### Key package?

Though MidiEditor 2 has many good points to go on being the main one there's a subtle domain software about which seems better. It is a MIDI sequencer and program such as those from Composition Set from Electronic Arts, which offer better facilities for external sound synthesis. MIDI also offers a block-composition system which requires no knowledge of musical theory (unlike a MIDI 2 which seems to assume that entry and entered in music must be a music student).

MidiEditor 2 is offered at a good price, and if you're prepared to put a bit of hard work into your composition, you'll get as well enough practice if you only want to use it for the standard ST compositions. A bit of hard work, but if you intend to enter files with MIDI instruments, you will find some convenient limitations.

### for

- One of the least expensive music packages
- Can be used with an external MIDI equipment
- Easy to use and fairly powerful

### against

- Limited note storage capacity
- No MIDI synchronization
- No real-time MIDI speed recording

### features

1 2 3 4 5

### performance

1 2 3 4 5

### ease of use

1 2 3 4 5

### versatility

1 2 3 4 5

### format value

1 2 3 4 5

# 3<sup>1</sup>/<sub>2</sub>"

DS/DD 135TPI

100% Certified

Lifetime Guarantee

## BENCHMARK

|    |        |
|----|--------|
| 10 | £12.00 |
| 20 | £20.00 |
| 50 | £44.00 |

## BRANDED

|     |         |
|-----|---------|
| 100 | £84.00  |
| 200 | £160.00 |
| 500 | £388.00 |

# 3<sup>1</sup>/<sub>2</sub>"

DS/DD 135TPI

100% Certified

Lifetime Guarantee

## 1 1/2" 5 1/4" DISKS

|                                           |      |
|-------------------------------------------|------|
| 10 Capacity Library Case (per pack of 10) | £ 79 |
| 40 Capacity Lookalike Box                 | £ 39 |
| 40 Capacity Lookalike Box                 | 7.25 |

## 3 1/2" 800 AND 600K DISKS

|                                            |       |
|--------------------------------------------|-------|
| 20 3 1/2" DS/DD Disk Plus 40 Capacity Inks | £1.00 |
| 40 3 1/2" DS/DD Disk Plus 40 Capacity Inks | 35.00 |
| 50 3 1/2" DS/DD Disk Plus 80 Capacity Inks | 40.00 |

All prices have local and local taxes

## PRINTER STANDS

|                             |       |
|-----------------------------|-------|
| 150 Column Space Saver      | 39.95 |
| 80 Column Space Saver       | 34.95 |
| 80 Column Standard Frame    | 13.99 |
| 80 Column Mounted with Tray | 18.00 |

## ACCESSORIES

|                                    |       |
|------------------------------------|-------|
| 100 & Turn Monitor Stand 10"       | 59.95 |
| 100 & Turn Monitor Stand 14"       | 12.95 |
| 3 1/2" Holder (Plastic) Pack of 10 | 4.50  |

## DESK'S 1 1/2" CLEANING KIT

|                     |       |
|---------------------|-------|
| CLEAN in Carry Case | 18.99 |
|---------------------|-------|

## CDPR HOLDERS

|                      |       |
|----------------------|-------|
| All Angle Polar Type | 13.75 |
| All Desk Top Type    | 9.90  |

## MOUSE MATS ETC

|                    |      |
|--------------------|------|
| Fixed Double Sided | 4.50 |
| Game Pad           | 4.90 |
| Mouse Mats         | 4.90 |

## DISK DRIVE HEAD CLEANERS

|                             |      |
|-----------------------------|------|
| 5 1/4" Head Cleaner - Fluid | 0.90 |
| 5 1/4" Head Cleaner - Fluid | 0.90 |

Price only if bought with other products



## DATA SWITCH BORDS

|                           |       |
|---------------------------|-------|
| 2 Way DS/DD 25 Way D Type | 19.90 |
| 2 Way Card 38 Way         | 21.90 |
| 2 Way DS/DD 25 Way D Type | 24.00 |
| 2 Way Card 38 Way         | 26.00 |
| 4 Way DS/DD 25 Way D Type | 28.50 |
| 4 Way Card 38 Way         | 29.50 |
| 2 Way 8 Core DS/DD        | 24.00 |
| 2 Way 8 Core Card         | 26.00 |

## 2 WAY DATA SWITCH - CABLE

|                                                                                                                                                           |       |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------|-------|
| Small Compact Data Switch Max load with one cable = 2 DS Way 8 Jacks Cable and terminated with either 25 Way M or 38 Way M (Simple push button operation) |       |
| DS/DD M Cable Termination                                                                                                                                 | 10.50 |
| Card M Cable Termination                                                                                                                                  | 21.50 |

## PRINTED CIRCUITS

|                         |        |
|-------------------------|--------|
| PCB04 1 1/2" 1 OUT 50K  | 80.00  |
| PCB04 2 1/2" 1 OUT 50K  | 99.00  |
| PCB04 1 1/2" 1 OUT 250K | 150.00 |
| PCB04 2 1/2" 1 OUT 250K | 110.00 |

## DATA CABLES

|                           |      |
|---------------------------|------|
| 25 Way M - 38 Way MM Type | 7.95 |
| 25 Way M - 38 Way M DS/DD | 7.95 |
| 38 Way M - 38 Way M DS/DD | 7.95 |

All 8ft Long

## DESKS CHAIRS

|                             |      |
|-----------------------------|------|
| 25 Way P to 25 Way P 1 to 1 | 9.95 |
| 25 Way P to 25 Way P 1 to 2 | 7.95 |
| 25 Way P to 25 Way M 1 to 2 | 7.95 |
| 25 Way P to 25 Way M 1 to 3 | 7.95 |

## GPU FLOOR STAND

|                                                               |       |
|---------------------------------------------------------------|-------|
| Move your GPU to save at least ADM 120 100 mm Model No CS-101 | 10.75 |
|---------------------------------------------------------------|-------|

ALL PRICES INCLUDE VAT & P&P, UK & EURO ORDERS ONLY

Cheques & Postal Orders to -



24 HOUR ORDERLINE - 0997 87794

M  
C  
S

**Manor Court Supplies Ltd** Telephone 0997 87 792

DEPT STA16, GLEN CELTH HOUSE, PENYBONT, LLANGRINDOD WELLS, POWYS, LD1 55Y

EDUCATION AND GOVERNMENT ORDERS WELCOME



# READY, MIDI, GO!

**So you've bought yourself a synth and you've got a MIDI interface. What on earth do you do next? Chris Jenkins presents the first in an occasional series on practical MIDI.**

**O**n the way the rough-idea-distributed-the-theory-before-computer-ideas-and-extended-considering-of-the-concepts-of-MIDI-and-the-issues-into-of-sequencing-synthesizer-patch-making-templating-and-recording.

It's worth it's time to look at some of the hard practical details of setting up a working music studio before adding your ST or Amiga. With careful planning you can make a start for around £400, and keep expanding the system as you have the time, space, and money. Let's assume for a start that you have an ST or Amiga otherwise you wouldn't be reading this magazine. For ST users, who already have MIDI parts built into their machine, the first thing you might consider is a memory expansion. Some professional-level software packages, such as Steinberg Pro 24 or 16 need 1 Mib to operate. Others,

for example, even on a 512K, but will perform the extra MIDI data acceptance more efficiently by a 104K. Consider the option of buying a pair 512K or expanding its memory using one of the many RAM kits on sale.

## Computer World

For Amiga owners, the first necessity is a MIDI interface. Though MIDI software is becoming easier to find available through UK IT distributors, SCMDISK (1989) if you stopped. Left at school, you'll have to make sure that the package you want to use is compatible with the hardware you choose. Probably the best buy at the moment is the Data MIDI Master at £24.99. This is available in different versions for the 480K, 1050K and 2050K, and is compatible with a wide range of music packages including Steinberg's Pro, Cubase Music 16 and 32, MIDI II, and MIDI II and MIDI II.

■ The first test item is a MIDI interface. The first test item is a MIDI interface.



MIDI software - but it makes the value of multiple OUTs lower.

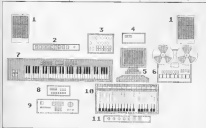
OK, so you're set up to communicate with MIDI equipment. Now you want your MIDI music composition software.

There's a baffling range of music programming software available, but most packages have the same basic functions: to record in MIDI data form a sequence of notes as clearly played as they can be, as entered originally or step and then a MIDI keyboard, and

## DIY MIDI

All go better, unless of the ST's then, read MIDI you have received only a little longer. Let's go you read this the Internet before you work any more interest the system.

We'll shortly be publishing an article on how to build your own MIDI system, but first, using you a few pounds on also pieces, build the space.



■ 1 - external or a full MIDI range. 2 - Monitor speakers. 3 - MIDI sequencing software. 4 - MIDI input module. 5 - Computer. 6 - Digital audio recorder. 7 - Keyboard to MIDI patch module. 8 - Keyboard MIDI computer interface. 9 - MIDI channel mixer. 10 - MIDI signal output unit.



# ST SOUND SAMPLING!

SAMPLE  
TIME  
INSTRY

44.1KHz  
16 Bit  
14.4KHz



EXAMPLE  
TIME  
INSTRY

44.1KHz  
16 Bit  
14.4KHz

## THE FIRST AND THE BEST HIGH SOUND SAMPLING SYSTEM FOR THE ATARI ST!!

Sampling sounds ranging from 16K to 44KHz with everything in built-in 16-bit quality and memory use. Use 4M on-line keyboard for 48 samples adding feature.

Sampling 16K, 22K, 33K and 44KHz. 16-bit.

Comprehensive features for C, assembly, Fort and 8086. 1.6M polyphonic with 2M stereo memory over 5 voices keyboard.

Volume sensitivity that is adjustable and selectable.

Sampled sound stored per unit and up to 16K long sound for effects.

Forward, reverse and freeze (freeze) processing per unit.

Ability to load two kinds of key (up to 16) and freeze.

Standard display showing wave, sample, volume, pitch, etc.

ES.DIGIFISER with MIDI SOFTWARE only.

£94.90

including VAT and DEC Postage

CALL 0800 AND NEW CALLERS WELCOME!  
STANDARD 02424, MONDAY TO FRIDAY 10AM TO 5PM  
SATURDAY 10AM TO 3.30PM



DATA DIRECT LTD.  
50 RUGBY ROAD,  
WORTHING,  
WEST SUSSEX,  
BN1 5ND  
TEL: 09000 700804  
ACCESSVISA.

## • • MAIL-SOFT • •

SIMPLY THE CHEAPEST MAIL ORDER COMPANY

| ITEM | DESCRIPTION                                   | PRICE    |
|------|-----------------------------------------------|----------|
| 1    | Apple IIe 512K RAM                            | £149.95  |
| 2    | Apple IIc 512K RAM                            | £149.95  |
| 3    | Apple IIc 1M RAM                              | £199.95  |
| 4    | Apple IIc 2M RAM                              | £249.95  |
| 5    | Apple IIc 4M RAM                              | £299.95  |
| 6    | Apple IIc 8M RAM                              | £349.95  |
| 7    | Apple IIc 16M RAM                             | £399.95  |
| 8    | Apple IIc 32M RAM                             | £449.95  |
| 9    | Apple IIc 64M RAM                             | £499.95  |
| 10   | Apple IIc 128M RAM                            | £549.95  |
| 11   | Apple IIc 256M RAM                            | £599.95  |
| 12   | Apple IIc 512M RAM                            | £649.95  |
| 13   | Apple IIc 1024M RAM                           | £699.95  |
| 14   | Apple IIc 2048M RAM                           | £749.95  |
| 15   | Apple IIc 4096M RAM                           | £799.95  |
| 16   | Apple IIc 8192M RAM                           | £849.95  |
| 17   | Apple IIc 16384M RAM                          | £899.95  |
| 18   | Apple IIc 32768M RAM                          | £949.95  |
| 19   | Apple IIc 65536M RAM                          | £999.95  |
| 20   | Apple IIc 131072M RAM                         | £1049.95 |
| 21   | Apple IIc 262144M RAM                         | £1099.95 |
| 22   | Apple IIc 524288M RAM                         | £1149.95 |
| 23   | Apple IIc 1048576M RAM                        | £1199.95 |
| 24   | Apple IIc 2097152M RAM                        | £1249.95 |
| 25   | Apple IIc 4194304M RAM                        | £1299.95 |
| 26   | Apple IIc 8388608M RAM                        | £1349.95 |
| 27   | Apple IIc 16777216M RAM                       | £1399.95 |
| 28   | Apple IIc 33554432M RAM                       | £1449.95 |
| 29   | Apple IIc 67108864M RAM                       | £1499.95 |
| 30   | Apple IIc 134217728M RAM                      | £1549.95 |
| 31   | Apple IIc 268435456M RAM                      | £1599.95 |
| 32   | Apple IIc 536870912M RAM                      | £1649.95 |
| 33   | Apple IIc 1073741824M RAM                     | £1699.95 |
| 34   | Apple IIc 2147483648M RAM                     | £1749.95 |
| 35   | Apple IIc 4294967296M RAM                     | £1799.95 |
| 36   | Apple IIc 8589934592M RAM                     | £1849.95 |
| 37   | Apple IIc 17179869184M RAM                    | £1899.95 |
| 38   | Apple IIc 34359738368M RAM                    | £1949.95 |
| 39   | Apple IIc 68719476736M RAM                    | £1999.95 |
| 40   | Apple IIc 137438953472M RAM                   | £2049.95 |
| 41   | Apple IIc 274877906944M RAM                   | £2099.95 |
| 42   | Apple IIc 549755813888M RAM                   | £2149.95 |
| 43   | Apple IIc 1099511627776M RAM                  | £2199.95 |
| 44   | Apple IIc 2199023255552M RAM                  | £2249.95 |
| 45   | Apple IIc 4398046511104M RAM                  | £2299.95 |
| 46   | Apple IIc 8796093022208M RAM                  | £2349.95 |
| 47   | Apple IIc 17592186044416M RAM                 | £2399.95 |
| 48   | Apple IIc 35184372088832M RAM                 | £2449.95 |
| 49   | Apple IIc 70368744177664M RAM                 | £2499.95 |
| 50   | Apple IIc 140737488355328M RAM                | £2549.95 |
| 51   | Apple IIc 281474976710656M RAM                | £2599.95 |
| 52   | Apple IIc 562949953421312M RAM                | £2649.95 |
| 53   | Apple IIc 1125899906842624M RAM               | £2699.95 |
| 54   | Apple IIc 2251799813685248M RAM               | £2749.95 |
| 55   | Apple IIc 4503599627370496M RAM               | £2799.95 |
| 56   | Apple IIc 9007199254740992M RAM               | £2849.95 |
| 57   | Apple IIc 18014398509481984M RAM              | £2899.95 |
| 58   | Apple IIc 36028797018963968M RAM              | £2949.95 |
| 59   | Apple IIc 72057594037927936M RAM              | £2999.95 |
| 60   | Apple IIc 144115188075855872M RAM             | £3049.95 |
| 61   | Apple IIc 288230376151711744M RAM             | £3099.95 |
| 62   | Apple IIc 576460752303423488M RAM             | £3149.95 |
| 63   | Apple IIc 1152921504606846976M RAM            | £3199.95 |
| 64   | Apple IIc 2305843009213693952M RAM            | £3249.95 |
| 65   | Apple IIc 4611686018427387904M RAM            | £3299.95 |
| 66   | Apple IIc 9223372036854775808M RAM            | £3349.95 |
| 67   | Apple IIc 18446744073709551616M RAM           | £3399.95 |
| 68   | Apple IIc 36893488147419103232M RAM           | £3449.95 |
| 69   | Apple IIc 73786976294838206464M RAM           | £3499.95 |
| 70   | Apple IIc 147573952589676412928M RAM          | £3549.95 |
| 71   | Apple IIc 295147905179352825856M RAM          | £3599.95 |
| 72   | Apple IIc 590295810358705651712M RAM          | £3649.95 |
| 73   | Apple IIc 1180591620717411303424M RAM         | £3699.95 |
| 74   | Apple IIc 2361183241434822606848M RAM         | £3749.95 |
| 75   | Apple IIc 4722366482869645213696M RAM         | £3799.95 |
| 76   | Apple IIc 9444732965739290427392M RAM         | £3849.95 |
| 77   | Apple IIc 18889465931478580854784M RAM        | £3899.95 |
| 78   | Apple IIc 37778931862957161709568M RAM        | £3949.95 |
| 79   | Apple IIc 75557863725914323419136M RAM        | £3999.95 |
| 80   | Apple IIc 151115727451828646838272M RAM       | £4049.95 |
| 81   | Apple IIc 302231454903657293676544M RAM       | £4099.95 |
| 82   | Apple IIc 604462909807314587353088M RAM       | £4149.95 |
| 83   | Apple IIc 1208925819614629174706176M RAM      | £4199.95 |
| 84   | Apple IIc 2417851639229258349412352M RAM      | £4249.95 |
| 85   | Apple IIc 4835703278458516698824704M RAM      | £4299.95 |
| 86   | Apple IIc 9671406556917033397649408M RAM      | £4349.95 |
| 87   | Apple IIc 19342813113834066795298816M RAM     | £4399.95 |
| 88   | Apple IIc 38685626227668133590597632M RAM     | £4449.95 |
| 89   | Apple IIc 77371252455336267181195264M RAM     | £4499.95 |
| 90   | Apple IIc 154742504910672534362390528M RAM    | £4549.95 |
| 91   | Apple IIc 309485009821345068724781056M RAM    | £4599.95 |
| 92   | Apple IIc 618970019642690137449562112M RAM    | £4649.95 |
| 93   | Apple IIc 1237940039285380274899124224M RAM   | £4699.95 |
| 94   | Apple IIc 2475880078570760549798248448M RAM   | £4749.95 |
| 95   | Apple IIc 4951760157141521099596496896M RAM   | £4799.95 |
| 96   | Apple IIc 9903520314283042199192993792M RAM   | £4849.95 |
| 97   | Apple IIc 19807040628566084398385987584M RAM  | £4899.95 |
| 98   | Apple IIc 39614081257132168796771975168M RAM  | £4949.95 |
| 99   | Apple IIc 79228162514264337593543950336M RAM  | £4999.95 |
| 100  | Apple IIc 158456325028528675187087900672M RAM | £5049.95 |

S  
O  
F  
T  
W  
A  
R  
E

## SOFTWARE

|                            |        |
|----------------------------|--------|
| Dungeon Master (ST)        | £34.99 |
| Overlander (ST)            | £19.99 |
| Dragon Road (ST)           | £24.99 |
| Dragon Command (ST)        | £24.99 |
| Dragon Riders Back (ST)    | £19.99 |
| Football Manager 1 (ST)    | £19.99 |
| Football Manager 2 (Amiga) | £19.99 |
| Interceptor (Amiga)        | £24.99 |
| Bugs Boy (Amiga)           | £24.99 |
| Black Lamp (Amiga)         | £19.99 |
| Satan (Amiga)              | £24.99 |
| Black Tide 2 (Amiga)       | £19.99 |

This is just a small selection of Amiga Software in stock

Software Prices  
Quoted are R.P.P.  
Please deduct 10%

DELIVERY TO  
EVERYWHERE  
£ 8.00



Don't be tempted  
until you've had a byte  
at YORCOM.





■ Images of this quality and better are quite obtainable on an Amiga or AT. A video digitizer is also required to make camera and a good subject are all that is required. This particular shot, captured with Dig! How, shows another Amiga's HAM mode. (Don't expect better)

**D**idn't you see even graphics on your AT or Amiga that no artist could ever dream of producing. The sort of thing that leaves you with your tongue hanging out, and dreams of lesser qualities to come.

What is it about these graphics that make them stand out from other good graphics? By taking many photographs, detailed. The sort of thing that just isn't possible with an analogue, no matter how large the video palette.

These, some photograph quality images are only possible by grabbing a picture, most often subject at low subject and reproducing it on a computer's screen. The hardware which does this is the video digitizer and the resulting pictures are known as digitized images. There is nothing mysterious about the way this is done: a video camera or video camera sends signals to the digitizer which samples colours in shades of grey to each picture element (pixel) that eventually appears on the computer's screen.

Of course, once an image has been captured and transferred to the computer's memory it can be manipulated the way other graphics. You can take the image and enhance it by removing unwanted background, touch up bits that don't come out as you wanted and alter the picture's colour palette. And then what? How about using the picture for producing starting conversations (like mail) bits left on the Amiga or Windows. Dials on the AT, having the same of control system for games, the background (memory) for games and adventures — it is fast for anything that requires graphic input.

So what are you waiting for? Head on to find out what you need for your particular setup, which digitizers are available, the software for them and digitizer control images and techniques for getting the best results.

**DIGI-VIEW 3.0**  
Amiga only (\$125/mk),  
1MHz recommended ■ All screen modes supported ■  
\$130 ■ HBI Marketing  
(0885 444433)

It doesn't take much to capture the Amiga's that every Amiga owner has at least heard of. It must surely be Dig! How. Dig! How has been available for a couple of years and during that time has become one of the most successful software for the machine. The manufacturer, Newtek, is the leader, claim to have sold only to over a million, mostly monthly sales, say the Amiga owner.

The best thing that strikes you when opening the Dig! How box is the





# DIGI-TIGERS

**Jalous of those sparkling screens you see on STs and Amigas in shop displays? Video digitizers aren't just a new way of taking photos — they open up a whole new world in image processing. Richard Monteiro and Jason Holborn polish their pixels in search of the ultimate.**

One of the digitizer — to describe it as such, about for an entertainment Digiflow plugs itself into the parallel port of the A2000 but you'll need the Digiflow adapter (available for an extra £19.95) to be able to use it on either an A4000 or an A2000. The actual video signal is fed into Digiflow via a standard phone socket on the front of the box.

The Digiflow software comes in two versions on a single disk: an American NTSC version and a PAL version. To be able to use the PAL version you'll need at least 1 Mbyte of RAM and then, then available memory can get a little tight. Digiflow supports all the Amiga's graphics modes and can produce from two to 4096 colours.

Version 3.0 of Digiflow incorporates several new features over its predecessors, such as desktop support, extra half-tone bars, it is still the best and a live art mode. All three

are fairly easy to change even, as most art packages offer little or no support for them.

Connected with the Digiflow unit is a project wheel segmented in four different colours (red, green, blue and black) which is attached to your video camera and used to capture colour pictures. To capture a grey scale picture, Digiflow requires only one scan of an image. Double clicking makes taking three different exposures using the red, green and blue filters. Digiflow then builds the three exposures into a colour picture, taking them all in memory at once. This is why it requires so much memory.

The software includes a limited number of image processing facilities such as changing the saturation level, brightness and sharpness of an image. Using these functions can sometimes have disastrous effects, but fortunately the software includes, every pixel a friend. Undo. The unit

also supports panning, but, in practice this is not very practical as it's not possible to connect a parallel printer at the same time as Digiflow.

Overall quality of captured images is superb, but, extremely impressive to unrecognizable, but with a little tweaking most problem images can be made to look very good. The only negative thing about Digiflow is the amount of time it takes to grab an image. Grey scale images can take around 15 seconds while a colour image, requiring three scans, can take as long as 30.

|               |     |
|---------------|-----|
| features      | 4.0 |
| performance   | 4.0 |
| ease of use   | 3.5 |
| documentation | 3.0 |
| format value  | 4.0 |

## SCREEN MODES

So you've been told that Digiflow is the way to go, but you're still not sure if it's not already something. The majority of Amiga software requires three channels. Digiflow is a very handy tool to identify the colour system in your monitor that a small window at the bottom (Data Pad) lists an Amiga mode, mode that allows for the maximum resolution of a screen's colour palette. It is not the only colour, probably an easy task as most of the time having the points.



"Metacomco's product has no equal in the realm of ST assemblers"

See ["The 100 Best Restaurants in America" \(2010\)](#)

"Is one of the most complete assembler packages available. The documentation is of a very high standard and this is complemented by Metacom's consistently good user support."

© 2000 Blackwell Science Ltd *Journal of Internal Medicine* 247: 391–397

You might expect that with such critical acclaim for version II of our macro-assembler from both sides of the Atlantic we would pat ourselves on the back and put our feet up

But Metacomco is dedicated to providing its users with high quality software which reflects advances in programming methods as they happen.

**So we are pleased to announce**

# METACOMCO MACRO-ASSEMBLER

## New Version

■ NOW INCLUDES  
REMARKABLE TEMPLATES: SIMPLE

Very high speed GDS-based text editor which scrolls a 50K program in 15 seconds. Fast searching and block copy/paste/delete functions. You can edit 4 programs simultaneously. Twenty programmable function keys.

"A first class piece of software" ST World (April 88)

"The ultimate text editor" Asian NT User (March 88)

■ **LIBRARIAN ADDED:** The new librarian is intuitive and easy to use. It allows you to create and maintain libraries of frequently used formulas on a weekly file.

● **BRAND NEW LINKER.** Don't blink or you'll miss the ball game! Our new linker is so incredibly fast that the time of your development cycle will be dramatically reduced. Supports C89 standard format.

■ **ENHANCED ASSEMBLER:** The assembler *asm68k* has been improved so that it is now considerably faster than previous versions. It also has many new features including support for absolute code to allow program development for ROMs or other chips and the facility to produce Motorola's "relocatable" format or "lisp" ("lisp") format. Many more advanced macro handling than before (Motorola specification plus **VALUE**, **STEPS**, **LEFT**, **RIGHT** and **MID**), Recognizes complete **DATA**/**WORD**/**WORD**/**WORD** instructions with and without operands.

#### ■ IMPROVED RESOURCE CONSTRUCTION

[illegible]

- **IMPROVED DEBUG++**: A unique symbolic debugger and link loader which allows fast and efficient debugging.

T rate the debugger very highly indeed, even compared with Borland's *MuseST* and for its relatively low cost to use.<sup>1</sup>

*Now Includes  
Tempus*

**£59.95**



• PLUS THE WELL-PROVEN FEATURES FROM  
PREVIOUS VERSIONS.

- Full compatibility with Lattice C and Metacom-  
piler ○ Standard Motorola instructions ○ Supports  
position independent or relocatable code ○ Very large  
range of directives ○ Text data and BSS supported  
○ Fully formatted listings ○ External references to  
allow linking with other language modules ○ Cross  
referenced assembly ○ 30 characters for variable names and  
32 bit expressions ○ BINARY directive to copy a  
binary file into the output file ○ Local labels and  
multiple sections supported ○ Options of advance  
listing of macros, includes and BSS ○ Disassembler  
○ IBM libraries for FOR, APL, COMPILE, FORS and  
LISP calls ○ Macro+ shell command environment  
○ MAKE utility ○ Highly praised 500 page manual  
which has been further extended

■ All these features combine to give you an unrivalled, fast and powerful assembler development environment on the Atari ST.

**METACOMCO**

20 Park Street, London EC2A 4PU, UK  
Tel: +44 (0)20 7323 8600  
Fax: +44 (0)20 7323 8601

© 2000 Blackwell Science Ltd *Journal of Internal Medicine* 247: 111–116

The new book is available in three different formats: hardcover, paperback and audiobook. The audiobook is available on CD and MP3. The audiobook is available on CD and MP3. The audiobook is available on CD and MP3.



If that's James, had I just said more  
silly things than you. Well, James, a  
much more interesting special was used  
instead a couple of suggestions for  
the trailer. Let me put out there  
that I'm very thankful and when  
you come and take the film  
please. Well, we will have the  
film.

**DIGIPIC**  
Amiga (512k min) ■ Low  
res. only. 32 colours ■  
8299 ■ Precision Software  
(01) 330 71666

CapSis is a relatively new arrival on the long-1-dagging scene that boasts an impressive specification. While CapSis doesn't support legacy features such as Dvornak, Extra-Hall Mode and FMS, in terms of speed of operation, it leaves CapSis in the dust.

Period with the aspirator is a relatively quiet time for the rollers and the name of the roller is Aspirator. This time window is connected between the tempo and its receptor for stimulation and requires the position of grey shades suitable. The only way is that the filter lamp were used to present. Before or after the grey scale image can be obtained. Dapper supports full color display using the same three color bars defined as Day-Blue and a color calibration wheel.

Any claim of hardship is only as good as the evidence that shows it, and Pacific's evidence is suspect. Both California and Pacific was awarded a similar pull-down contract in 1992 as Atlantic's bid-raise. Given the same circumstances, it's

With Digiplex, the image is moving rapidly and rather limited but Agfa's are much more comprehensive with a full including Quantum Offset Standard and also the recent quality of standard images that is a real worry of the standard that can have impact from a digital coding. DIGI but if you require a final copy from Agfa's, a more

|               |     |
|---------------|-----|
| features      | 3.5 |
| performance   | 3.5 |
| ease of use   | 4.0 |
| documentation | 4.5 |
| format value  | 3.0 |

**TURBO DIZER**  
v2.0

ST ■ Low and high res supported ■ CL40 ■ Software Express (OS)-32K/34K/36K

Serials have definitely split now, and now strongly promotes a for 2010. The 2 refers to the software, not the hardware, but it still encompasses a long list of services for plugging into the ST cartridge port. A DVD-ROM was added to the digital-only data-pending library, and the only way of looking at the new read speed.

The University per head and labor per acre always gives the following values relative to the average of

It's with silver-out jacket. There are very few businesses with silver-out on their cars; you have another, except this silver source before buying that, or silver-out jacket, jacket.

The software's programming for developing the maps for comparison is for solid, dashed, and dotted lines and displays a 100-point 2D screen. Color is translated to gray-scale which means the maps on your 2D screen can look grainy when viewed on a resolution. Even the best maps you can get are typically level 2-4 or 1:50,000, typically differing on or off to refine geographic features after light and color differences. Select color settings based on your map's resolution. For more information, contact the author and publisher, **MapQuest**, at 10000 Wilshire Blvd., Suite 1000, Beverly Hills, CA 90212, or visit their website at [www.mapquest.com](http://www.mapquest.com).

Not all features are available for both high and low resolution digitizing. For instance, output is restricted to high-resolution drawing and registration is only possible in low res. and only high-res pictures can be saved with an RGB extension for resolution at 256 pixels per inch. (For more details see *File* menu.)

The time taken to deploy a packet is proportional to the number of grey nodes used. The more grey nodes and 0.002 of a second by the deploying node. At least, that's what the manual says. Going by these figures, it should take 0.2 of a second for each of a frame using eight grey nodes. Where, then, is the time missing?



**IN HISTORY'S** *most* **memorable**  
offensive, German troops  
broke through the  
French defenses.

## TURBO DIZER FACTS

- It offers viewing, with the advantage of no loss of quality of its 10.4-inch true full-color, 16-million-color LCD screen for \$24,999
- The digital's security features and the 10-megapixel camera
- The same connectivity as Sony's and Eastman Kodak's cameras, the digital for users already
- The picture-transfer and print-out and the display information on the images are different, too, says

### FORTHCOMING ATTRACTIONS - AMIGA

There's a lot happening on the digital video display front and details of several different emerging technologies are appearing. Probably the most interesting new display on the long, slender 15.1" cell and laptop is the 15.1" 16:9 Widescreen Digital operating from Dell and the entire collection of Video Technology

[illegible][illegible]

As with all things, power doesn't come without a price. Harry Ward and I agree, even if the Video Reader exclusively isn't the reason if you're a video professional, though those features certainly are a reason to use it.

For further information contact either Anna Carter, Scotland  
on 011 880 6262 or Bill Gault, Hong Kong on 00852 261610



taken between 1 and 2 minutes. Still, the manual still has a pricing error.

Pictures take up a lot of room—typically 34k—which is why Turbo Draw uses a compression technique for storing pictures temporarily. Better than saving the full picture, the software simply stores the difference between each frame or picture. This can mean a 75k reduction in memory used.

Control over animation is good but tricky to implement. Sequences

can be plotted individually or automatically, the time between each shot being taken in auto mode can vary from seconds to 40 days. Animations can be played from within the package but usually the software doesn't allow you to create stand-alone sequences.

Documentation is poor: the C source has the real meat on the stick, so even German comments lend the booklet of manuals to the manual. Editing is slow and then weeks long with stills. Slows apart with a little

hiding good results are possible. Pictures can be converted from one format to another easily and the price is attractive.

|               |     |
|---------------|-----|
| features      | 9.0 |
| performance   | 3.5 |
| ease of use   | 3.5 |
| documentation | 2.5 |
| format value  | 4.0 |

## DO IT YOURSELF



### REAL-TIME?

What can real-time digitise? In theory, any video motion that doesn't lie too far from ideal motion and display all a user of a digitiser will receive a record in a 75k video compressed buffer at 10 frames per second. In reality, 100 frames are stored in the hardware 700k buffer. The price of real-time motion capture systems is high, but the digitisers are not too expensive. The price of the digitiser is not too expensive, but the price of the motion capture system is high.

If you've got the choice, always use a black and white video camera for digitising images: they have a higher resolution than true colour cameras. Most digitising hardware doesn't require a colour camera to give colour pictures, most hardware comes to approach images.

The best images are always taken before the subject. If you want to use it to place the picture before a camera. When cameras work you must ensure the subject is well lit, close as many lights as the general direction as possible. For uniformity of work use three or four spot lights.

Next photographs and pictures don't digitise well. Use colour pictures for the best results.

Don't point yourself a few images using your digitiser. You'll probably start wondering what you can actually do with them. Unfortunately digitising software often lacks facilities for saving up pictures or modifying them in any way, the most you'll likely to get is a

slideshow utility. What you need is an art package of sorts—and there are many—to clean up the image, remove stray marks, perfect lines, the control in each change the colour palette and take it to your requirements.

Changing the palette is not as straightforward as it sounds. If you're using a picture set on an alien world you'll want the background in unusual colours—red sky and various shades of orange for the countryside (Bizarre has been told to experiment).

Look out for graphic packages that offer image stretching, shrinking and tiling. You won't always want to use pictures, but the ability to change their height and width is essential. Don't move pictures until you're sure the results will be useful—good cropping starts and looks really ugly. Reducing an image has the opposite effect: it often enlarges the picture. Most art packages come with horizontal and vertical flip effects are ideal for creating objects out of half an object. For instance, if you digitise a disk and part of a book, add it to a copy of the good half and flip it along the appropriate axis. Then it's simple to create a picture of the two halves.

Once you've got a clear image you'll want to do something with it.



Digitised portrait, possibly, but with a little help from DigitWise, Motion Picture and a 3.5 Meg floppy disk.

## OTHER DIGITISERS FOR THE ST

Active Detection Machine (ADM) from Best Systems, available at £199.95, is the only other video digitiser still sold in this country (after the Pro 47 and Realtime, being long gone). ADM was going to be reviewed in this feature, but didn't arrive in time. ADM has a great video camera.

ADM's great video camera is made in two parts—£199.95—but the ability to grab pictures from either camera or video camera is real-time. However, this means you can't store any frames and it will appear on your ST screen after a few seconds. Only 10-colour data resolution pictures can be stored in memory.

Instead of using an individual frame of recording video signal, you can store entire sequences. This can be 100, 50 or a 2000, 50 or a 2000, 50 or a 2000, 50.

The software allows you to animate digitised sequences of any speed, forward or backwards, and in frame mode.

# POWERDRONE...

It's not just a game anymore ...

- Fast, Realistic 3-D Graphics with Diploid Journal
- Head to Head Challenge via Dual Machine Simultaneously
- Hazardous Charter Gates, Ethicars, Crisscross and Tunnels
- Practice Solo, or Race against 4 Computer Hardened Galactic Rivals
- 6 Challenging and Tortuous Tracks set on 5 different Planets
- Automated Hobgob for refuelling, bodyparts replacement and complete tuning.



NOW FOR THE ATARI ST ... Price £24.95.

SOON  
ON THE AMIGA  
Price £24.95



Electronic Arts produces some of the most innovative and fun games of your time. Contact us today for more information. **1-800-828-8888**  
LANGLEY, BRANSON, IYON, IRL, SAKURAI 07 523 48485. DEALING THROUGHOUT THE WORLD.







# DATA MANAGER PROFESSIONAL

Ron Messer wrestles with fields and records to form an opinion of the new ST database release from Timeworks.

\$99.95 ■ ST only, all models ■ Timeworks /Electric Distribution ■ Green Street, Wilegham, Cambridge CB4 5JA (0934 800116)

Every facet of daily living lends personal and professional life a reputation for a busy system of schedules for efficient management of daily affairs. Not all of the many database systems available, however, what the next age system would only do for your friendly first cousin to carry the systems, encourage users to feel extra applications for their vital role.

Timeworks, latest release Data Manager Professional lets call a DMF (a big brother in their Data Manager ST) and should go a long way towards performing your role here in today's useful applications for efficient management of all information.

## Open the box?

DMF is a full-blown professional grade data management tool which can be used with the ST's GDM applications, or for the majority of its capacity, directly from the keyboard.

Once you have made the various

needed working copies of your master data and got going, you will realize that DMF is designed around individual program modules, running DEFINE. For designing new record forms and editing or adding variables, to set up records.

MANAGE DMF's operational module, Records are viewed, inserted, edited or deleted with the

REPORT module for designing the format of your output files. Setting up the parameters for saving blocks of text with definable access from your records.

CONFIGURE Allows you to alter the default options for data style, default drive for your data files, and printer configuration.

## Relating to it

The most difficult part social users are database in the planning required to set it up so that subsequent use of your information will provide you with useful information about your data.

Data Manager Professional is a complete exception. Setting up a database is usually referred to as defining its structure. The design of your records is, partly defined by the type of variables you require as input.

A particularly important Data Manager Professional feature is that you are allowed to modify the structure of your data files even after data has been entered.

Each data entry is a record (or being ready) is called a variable and is placed in a field box or more lines, is a record formed by a single field entry to the variable. Each field has a value for each record. Each variable also has a type: Text, Number, Date, or Date.

TEXT FIELDS are represented by character strings which are absolute or are not intended to be modified by mathematical calculations.

NUMBER FIELDS are used where mathematical operations may be needed. Numbers, represented by text fields, be used for arithmetic calculations.

DATE FIELDS are variables consisting of two or more lines of continuous text.

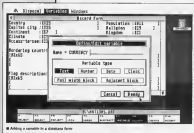
CLASS FIELDS are used where the range of data is limited to given groups or a user-defined range of values for input.

CURR FIELDS are used as references to data held in a record and may consist of current reference data for subscription (renewal) or dates of last call significance.

## Before your eyes

Once you have acquired a degree of familiarity with the system, you should need to make very little reference to the extensive on-board manual because each program module includes its own extensive range of help pages.

Moving through a file is done in any of several ways. Once you enter the Display option you may show forward or backward in a file with the first and last records defined as



Adding a variable to a database form







# SCREENPLAY

3D intergalactic epics are all the rage this month so, slipping into his green lurex jump suit and donning his laser filtered plexiglass helmet, intrepid space cowboy Andy Storer jumps aboard his faithful star-steed Trigger and heads for the nearest bar.



Again, size is how games are coming into our offices and while that is a little skewed for the last three months, we are certainly glad to see our coming titles being for releases in the next two. It is an absolute win-win for **TOP GROSSING CONSCIOUSNESS** because that is in a revenue role of 1.2749491 to us in a day. This means that **AN IDEAL UNIFORM** paid it for this to be ideal in terms of the success of 130-000 is just one game if you can understand. Luckily, we are happy to be in the middle of our release and we will see that in the future.

## GAMES INDEX

**FORMAT CODE**

|                                     |    |
|-------------------------------------|----|
| Stargiller & Sanford                | 51 |
| Federation of Free Traders (Canada) | 52 |

**FORWARDED**

|                         |    |
|-------------------------|----|
| Eliminator Hewson       | 81 |
| Vectorball Mastertronic | 82 |
| Carrier Command Randak  | 83 |
| Hostages Infogrames     | 84 |
| Starway Logotron        | 84 |
| Summer Doublet Tengen   | 85 |

**Expenditure Control**

It was just this month we thought all the games we've loved would feature nice HD graphics. Then **POWEROGEAR** and **LAST** were delayed by matter months by **THE** two best **SOUL** owners of the year instead of us three.

**STARLINGER 2** was a **POWDER GOLD** horse from the moment you laid your hand and finding a **REAL SWEET SQUI** was no wonder the Argentis are looking for a **STEALTHY FIGHTER** would be - a you feel a 50 foot sweat and **STP** **STANDARD AMPLIFERENCE** for the last year's prices for most horses.

The name could be used as a synonym for "old" because, our other **OLD** words

Identify Most 30 countries. Playable cards, an instant complete and a play set of around 25-BILLION TRILLION SQUARE LIGHT YEARS make FORT a MASSIVE PROJECT you could spend more than a lifetime playing.

And Shuman's answer:

The Amiga version of **CARNAGE** (CARNAGE) stormed our way at a cool, 100 MPH and we instantly downloaded it along with all 55 pages of instructions and a 2 control cards. Caring 1 one of the few true **MULTIMEDIA ACTION** games on the market... by Johnson & Johnson and various vendors at **ART** **COM** **TIME** it's yours and free.

(History: also in the release journal of [www.ubuntu.com](http://www.ubuntu.com), the latest release journal will use



If you love the CM "Design your Dream room" by **MULTIPLE PARALLAX** I started. Well you can now have the very best Background Images under Your Own Control!

[illegible]

Turn the page and do  
a sort of **INTER-  
GALACTIC CRASH-  
OUT**



**Appendix A** contains the **FIR USER**, the **pageing**, and **FIR LOCAL**.

Salisbury's degree is high in the graphics department, but it is not clear that you think playing GOLF.

## FROM THE CUTTING ROOM FLOOR

[illegible]

In the 50 states we put the operating gross (gross of PAYROLL, the Agency deposit of 15.45%, SOCIAL SECURITY, the gross burden of 7.654% and the state charges of \$6.125 and 1.125% the COST level on all. But many could buy one or more.



So there you have it, a world where there were more things that did not exist — what an Earth is becoming!

# STARGLIDER 2

AIRCRAFT/RAINFIELD



Amiga - £24.95 Joystick, mouse Reviewed

ST - £24.95 Joystick, mouse, Cellular and More

The release of Starglider two years ago not only heralded 3D-bit power as the future format for games software but convinced players that it was time to look out the window for the hardware. No other product gained so much coverage and sales and yet, ironically, as a technical achievement the look was distinctly 8-bit. Okay, so the wire frames moved fast and there were a lot of them, but at the end of the day Starglider was no more than a straight shoot-'em-up with limited strategy. The sequel is a different game entirely and owes little to the original save for the name and the controls. Sound, graphics and gameplay have all been radically overhauled.

■ They can take little cut and switch them away from a go at each other

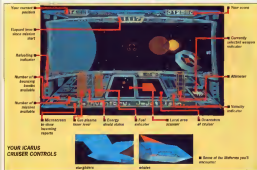
■ Radar will give it

■ and via the message of points



## AIM

On behalf of the President Council you have been dispatched to the Solar System in a bid to prevent the Egron from building a space station near the astronomical planet of Rhea. To Rhea is weapon powerful enough to destroy Rhea's Sun. Rhea's Projectors are being deployed on each of the seven moons of its solar world. Missions are to be the space station construction in your Solar System. You must visit the 15 worlds of Solar and collect the minerals, materials and the scientist required to produce a nuclear bomb - the only device capable of taking out the space station. Along the way you'll encounter hostile alien creatures and of course heavily-armed Egron opposition so it's best to regularly save your progress.



**YOUR ICARUS CRUISER CONTROLS**

- View camera position
- Expand lens when rotation starts
- Refueling indicator
- Number of incoming bombs available
- Number of missiles available
- Microscreen to show incoming reports
- View plasma laser level
- Energy shield status
- Fuel indicator
- Local area scanner
- Scramblers of Egron
- Currently selected weapon indicator
- Altitude
- Velocity indicator
- Score

■ Some of the differences you'll encounter

starglider

starglider





## A movie poster for the film 'Where Time Stood Still'. The title is at the top in a large, stylized, metallic font. Below the title, a man in a dark suit and a woman in a red dress are shown in a dynamic, action-oriented pose. The background features a large, blue, dinosaur-like creature and a propeller-driven airplane flying through a cloudy sky. The overall color palette is dominated by reds, yellows, and blues, giving it a classic, high-contrast look.



0000



6 Central Street, Manchester, M2 5AF, Tel: 0161 275 2222



ATARI  
ST  
£19.95

# ENTERTAINMENT



**DALEY IS BACK** Enter the 1988 Olympic Challenge with Daley Thompson as you 'work out' in the gym, where your efforts will directly affect your performance in the competition itself - another first from Ocean.

Ten Olympic events include Long Jump, Shotput, High Jump, 100m Sprint, 400m, 110m Hurdles, Discus, Pole Vault, Javelin and 1500m. You will need all your skills to build an outfit you hope will be an impressive work-out, and as is necessary for all top flight athletes, your judgement to select the most effective equipment for each event is your vital - a decision which will win or lose you a place on the podium.

This isn't just another sports simulation, this is a Daley Thompson 'event' where all his talent and fantastic burst through to make a thrilling and enterprising game play for all the family. Go to the Olympic Challenge!

FROM

**ocean**

# OF THE ART



# FEDERATION OF FREE TRADERS



PAUL BLYTHE/CREMULIN GRAPHICS

ST - \$249.95, joystick

Amiga - under development

**A** perfect game could be one that is open-ended. There's no finite point at which you can say it's over — there's sufficient depth, breadth and complexity to ensure you slot it in your spare time after time. *Federation of Free Traders* may not be perfect but it has all these qualities. In amongst its immense play area of 10<sup>14</sup> square miles of galactic space, with the legendary Elbe finally making it onto the 64000, you can judge just how much the space trading adventure genre has changed in the three years that feel like three decades.



■ You select a galaxy from the 12 FFD available and pinpoint a system

## GAMEPLAY

The *Federation of Free Traders* is an adventure in which you can choose to trade between 12 FFD galaxies each comprising 256 star systems at 16 planets in your Herby FFD starship. You begin the game as a Federation coded and though successfully completing various mini-goals work your way through the eight ranks up to Prime Prince status.

At first you are given fairly basic tasks such as delivering cargoes to distant planets or escorting freighters in the more isolated areas of space so you must use this time to build goods and build up sufficient capital to enhance your ship capabilities.

There are 15 missions involving scouting, trading posts, invasions, evacuations and interceptions, each winning after an event. Using Galnet — a galactic communications network — you are able to access stock market data on a range of commodities and buy, deliver and sell accordingly after time-traveling or hyper-jumping to stock at space stations or planet-based stock. You may choose to opt out of the Federation's latest structure of any time by joining various banks and simply playing the market. Perhaps, you'll buy Class 1 lasers, shields and engines with the proceeds and thereby acquire the offensive and defensive systems required to keep up the ladder of success.

Of course, in a play area of this scale, there's bound to be a whole host of aggressive adventures amongst all the other players, so you'll be relieved to know you can communicate with passing ships via an FFD radio screen before deciding whether to engage them in the Federation of Free Traders. Both Galnet and Class are accessed through Galnet — your ship's computer — a handy little tool which'll let you too proceed to let you load in a week of a dozen or so sub-games to help pass the sparetime.



■ You check each planet in turn for the best place to trade your wares



■ A stock planet is one of 16 systems you go





■ This plate decides to interrupt your journey



■ But you look on with some 2 hours



■ and it's goodbye



■ You call up Gabe



■ And from the range of options



■ Chance is also the collection of credits



■ Perhaps some further credits might be a good idea



■ If you feel like a little light relief in your long journey there's always Gabe the ship's computer to help you out



## CONCLUSION

PORT scores very high in graphics and sound and gameplay, some truly lustrous 3D graphics. The game design is only marred by minor details but if you're looking for a game you can make a career of then this should definitely be on your list. It has all the computer elements ready to take and more. Maybe a third year's time will all be crying out for the 3D for consoles.

## GRAPHICS AND SOUND

PORT uses 3D vector graphics for all moving objects and planetary surfaces. Movement is extremely smooth - a detail also becoming a by-product of the vector graphics. Possibly the most advanced 3D vector graphics to be used in any video game to be found on planet Earth, where the use of vector graphics is not just a novelty but a necessity, since, when used, they can be used to create a wide range of effects, from simple to complex, and give the impression of a true 3D environment.

On top of the 3D graphics, PORT has a 3D vector sound system. The sound effects are of a very high quality. The music is of a very high quality. The sound effects are of a very high quality. The music is of a very high quality. The sound effects are of a very high quality. The music is of a very high quality.

The graphics are of a very high quality. The sound effects are of a very high quality. The music is of a very high quality. The sound effects are of a very high quality. The music is of a very high quality. The sound effects are of a very high quality. The music is of a very high quality.

The sound effects are of a very high quality. The music is of a very high quality. The sound effects are of a very high quality. The music is of a very high quality. The sound effects are of a very high quality. The music is of a very high quality. The sound effects are of a very high quality. The music is of a very high quality.

### still graphics

1 2 3 4 5

### moving graphics

1 2 3 4 5

### sound effects

1 2 3 4 5

### background music

1 2 3 4 5

overall 85%



#### MYSTIC

Works on both and comes with the complete 100-page book that is the full and true history of MYSTIC. Sign up to receive a whole guide and Mystic Review, get 1 free extra picture like the image by the animal looking. Sign up to receive more.



#### MYSTIC

Sign up to receive the complete 100-page book that is the full and true history of MYSTIC. Sign up to receive a whole guide and Mystic Review, get 1 free extra picture like the image by the animal looking. Sign up to receive more.



#### MYSTIC

A game about animals which has received over 100 reviews. Each level has its own unique subject and requires ingenuity and strategy to complete. One player or two players. 100% action for total enjoyment.



#### MYSTIC

Many interesting puzzles to solve the most interesting of the most interesting. An addictive game requiring quick thinking and strategy.



#### MYSTIC

Designed through 10 levels of the best and fastest action. Lightning responses are necessary to the strategic choice between better weapons or faster reflexes.



#### MYSTIC

Experience the great game and adventure of MYSTIC. It is designed for the best of the best, fast and easy to play. Lightning responses. 1 or 2 player option.



#### MYSTIC

A strategy game with 100% action. 100% action for total enjoyment.

#### MYSTIC

Experience the great game and adventure of MYSTIC. It is designed for the best of the best, fast and easy to play. Lightning responses. 1 or 2 player option.



#### MYSTIC

Designed for home and business use. This game is suitable for use in general education and school settings. It is designed for the best of the best, fast and easy to play. Lightning responses. 1 or 2 player option.

#### MYSTIC



MYSTIC

# ANCO

ANCO SOFTWARE LTD, UNIT 5-10 BURNHAM TRADING ESTATE  
OFF LAWSON ROAD, DARTFORD, KENT DA1 2BH TEL: 0322 93263  
MAIL ORDER HOTLINE: 0322 932631 FAX NO: 0322 93432  
PAYMENT BY CHEQUE, P.O., VISA OR ACCESS



# GAME BUSTERS

## BETTER DEAD THAN ALIVE

**New Web-Enabled Reference: Cuts New path for user input**

**Amiga** - load the game in usual and wait for the options screen to appear. Type **GRAPH** and press **enter** selected the cheat mode. In the first instructions on its operation press **HELP** followed by **1st**. Wonderful messages confirmed you are now provider for exclusive machine guns, superballs and other features.

—at any point in the game type (TV) press (HELP) twice and then the left mouse button. A screen appears, requiring the children's e-mail address, and then the children's name.



### ■ Amiga

Complete: The level team must  
and jump off the ledge. You will  
receive 1000 points and you'll  
be transported to the next  
mission level.



Go for the highest value cards. Fill up with fuel and save the rest of the money for the local fuel. Raise your speed between 100 and 120 mph. Use green speed indicator (should be on). Slip (move the blue light) (stay at the speed indicator you got through the Granddaddy Alley (stay - make sure you stay in the center of the road through (upstream) the dam) through the (dark) traffic lights in Slough. Exit (stay through the stage you must increase your speed by less or three green lights. You should be at the level (containing)

On higher levels, it is broken down into smaller, less complex pieces. On the lowest level, it is broken down into its constituent parts, which are then used to build new, more complex structures.

Leitman's Consumer Help and a full fuel tank will get you through each level. May 1 was when you have the money followed by Guttering Rain for dipping of barrels and Great Bonds for Rainwater collecting in a pond. Don't confuse with Prince Rumble on June 1.

## Abstract

**E2** press **Caps Lock** when the status changes and when **PA1**. This allows you to start from the level that you closed it in the previous round. Alternatively, press **Caps Lock** and type **DETECT**. If you press **E** during the game, you will automatically pass to the next level. If you type **DETECT** (**PA1**) during loading, you will be transferred to the first level.



**Health Plan Characteristics**



## CAPTAIN BLOOD

© 2000 Blackwell Science Ltd *Journal of Internal Medicine* 247: 391–397

When you get a high score  
under the name **PRIZEMAN**,  
this game you wonderfully  
Name: **Chloe**  
Location: **Stockholm**

Like in stores? Then sell a couple of players and take on some opponents. Sell the quarterback to Dave on 4 for around 1400 - the price jumps according to league for instance it is possible to sell players in Division 1 for 2400 GM-although it can be as little as 100 GM. Keep selecting until you are offered a decent price. (Don't sell too many players as the program will crash)

If you wish to obtain a better night, but can't be bothered bying around for eggs, turn SLOW on and press key (2) to P.M. up. Slow down with key (4). Turn SLOW off and press key (5).

## HACKER

Ag. Notes: LDC/2004 presented selected notes and other publications.

[illegible]

## REGISTRATION

GET THE GREATEST GAMES FROM  
GAMERBUSTERS



**CASTLE HOUSE**  
**1.1 NEWCASTLE STREET**  
**BURSLIM**  
**STOKE-ON-TRENT**  
**TEL: 0782 575043**  
**(1.0 LINE)**

|                       |       |
|-----------------------|-------|
| Services of the Large | 17 00 |
| Fuels of Residence    | 18 00 |

[illegible]

|                     |       |       |
|---------------------|-------|-------|
| U.S.F.              | 18-25 | 7-10  |
| Winter Olympic      | 23-25 | 7-10  |
| Servants Out        | 18-25 | 7-10  |
| Swamp               | 18-25 | 7-10  |
| Jacky               | 18-25 | 7-10  |
| Children's Football | 18-25 | 7-10  |
| Handball Pool       | 18-25 | 7-10  |
| Ball Shooter        | 23-25 | 4-10  |
| Quartz              | 18-25 | 3-10  |
| After Game          | 18-25 | 3-10  |
| Handmade            | 18-25 | 3-10  |
| Black Sheep         | 18-25 | 3-10  |
| Harper              | 23-25 | 3-10  |
| Master II           | 23-25 | 3-10  |
| Marshallian         | 18-25 | 3-10  |
| Collier             | 18-25 | 4-10  |
| Handmade            | 18-25 | 4-10  |
| L. Children of P    | 23-25 | 12-15 |
| Handmade (Hill)     | 23-25 | 12-15 |
| Williams            | 23-25 | 9-10  |
| Harper              | 23-25 | 9-10  |
| Marshall            | 23-25 | 9-10  |
| Western Games       | 23-25 | 7-10  |
| Handball            | 23-25 | 7-10  |
| Hard to Part        | 23-25 | 12-15 |
| Handmade            | 23-25 | 8-10  |
| Handmade Paper      | 23-25 | 12-15 |
| Part Day            | 18-25 | 2-10  |
| L. School           | 18-25 | 2-10  |

| STANDARD 800-870-8000   |        |
|-------------------------|--------|
| Superior 100 (Blue Key) | 14.00  |
| Stellar Cascade         | 25.00  |
| Superflood              | 15.00  |
| Endlesspool             | 122.00 |
| Championship 1, ranked  | 50.00  |
| Stagnant                | 122.00 |
| Max Volume II           | 100.00 |
| Platinum                | 122.00 |
| Electric                | 120.00 |
| RT Advantage Creator    | 200.00 |
| Artificial Dreams       | 50.00  |

|                           |       |
|---------------------------|-------|
| Random                    | 12:00 |
| Shanghaier II             | 13:00 |
| Wailing                   | 13:00 |
| Waves                     | 13:00 |
| Legend of the Sword       | 18:00 |
| Fernando Must Die         | 18:00 |
| Reverendary Comprehension | 18:00 |
| Shallower                 | 18:00 |

Three award medals are displayed. The top medal is a 'Grand Master' medal, featuring a central emblem and the words 'GRAND MASTER' in a banner. Below it are two smaller medals: a 'Silvermaster' medal on the left and a 'Bronzemeister' medal on the right, both with similar designs and their respective titles in banners.

| MINIMUM | SPECIAL | ADDITIONAL |
|---------|---------|------------|
| 1000000 | 1000000 | 1000000    |

|                      |      |      |      |
|----------------------|------|------|------|
| Stilwell             | 1942 | 1945 | 1948 |
| Carson Command       | 1942 | 1945 | 1948 |
| Langston Moore       | 1942 | 1945 | 1948 |
| Donald D.            | 1942 | 1945 | 1948 |
| Football Manager 8   | 1942 | 1945 | 1948 |
| Journal of the Award | 1942 | 1945 | 1948 |

ST 5 STAR

NUTS

WASHERS

TRUCK CAGE

RAMPAGE

TRUCKING BAR

WIREBALL

CLAMPING SYSTEM

|                    |         |
|--------------------|---------|
| Carter (Continued) |         |
| Photoduplex        | \$50.00 |
| Slide at 126       | \$50.00 |
| Letter, Photo Lab  | \$40.00 |
| Remittance         | \$50.00 |
| Mail to Carter     | \$50.00 |
| Army Notes         | \$50.00 |
| 1976               | \$50.00 |
| Overboard          | \$50.00 |
| Interest paid      | \$50.00 |
| Single Letter      | \$50.00 |
| 1947               | \$70.00 |
| Dash Card          | \$50.00 |
| Miss Perry Harvey  | \$50.00 |
| Monteville Mirror  | \$50.00 |
| Quadrant's         | \$50.00 |
| World News-Gulf    | \$50.00 |
| San R. Lupo        | \$50.00 |

|               |         |
|---------------|---------|
| Pseudots      | 12 800  |
| Thymelea      | 15 600  |
| Bugby Bay     | 25 500  |
| Sigbee Harbor | 100 000 |
| Flowerwood    | 24 000  |
| Orlinskong    | 100 000 |
| Guarbit II    | 175 000 |
| Bevin         | 12 500  |
| Sidewood      | 45 000  |
| Parson's Arch | 100 000 |

[illegible]


**FOR IT OR AGAIN**  
 (Please state machine)  
**LITTLE COMPUTER PEOPLE**  
**BRANDS**  
**DEEP SPACE**  
**HACKER II**  
**ALL 4 CAMES ONLY \$24.95**  
 Ask For Computer Man

**Any game not released will be sent on the day of release.  
These are mail order prices only.**

**CASTLE COMPUTERS**  
THE COMPETENT MAIL ORDER COMPANY





# HOSTAGES

INFOGRAMES

ST - £24.95, JoyStick, Relevance

Action - £24.95, JoyStick, Due September

The first of ten Infogrames titles to be released over the next three months, *Hostages* is a strategic arcade game allowing six characters to be simultaneously controlled in a bid to storm an Embassy and free captives. For urban anti-terrorism has made it to the screen and here it's a French SAS squad you command. Perhaps an assault on the Rainbow Warrior would have been more true to life!



■ A strategic view of your HQ leads to the raid

## GRAPHICS AND SOUND

*Hostages* graphics are impressively smooth and atmospheric. The exterior shots depicting the main mission, 10221st Ave, are shot as if by a professional back-projection over which ambient soundscapes contain flowing (bordered) action inside the Embassy. Movement between rooms is temporarily halted by the screen edges which limit the effect of compensating the trouble. When you enter a new room, the brief pause for a screen change gives you and enough time to glimpse your strategy map before you hit the trigger in anticipation of an assault. That may leave you with a question for a moment.

Sound effects feature some of the best gunfire samples around, cut with the precision of a top man. What else would you expect in a game that starts with a counter-terrorist going about its everyday duties?



■ Keeping your way in a doorway as the searchlight beam is on you



■ The shoot-down the control wall looking for a window



■ Before you come across your first hostages



■ There is a person here and you later in the night

## GAMEPLAY

By 5.45 a.m. and you're working out your strategy. After looking at the level of difficulty - determined by the total time to contain the overall mission - you have to place three machines at set strategic points around the Embassy in preparation for a further time to be set in the helicopter to the raid. One by one you position your machine guns along three rooms of the building, by giving them with joystick between the terminals, searchlights, accuracy, the perimeter. There's your strategy screen and wait to hear behind as you design the strategy of machine guns for on your way to a prearranged position. During the two minutes a number of traps and nets which would normally require it, *Hostages* subtle gestures. Thanks to you appear to be most protected (it sound in better hours) off you the water a while before you finally to the sink.

Once in place, you have the 10221st Ave, it is important to note of the Embassy involves you to view up and down (to take out the view) and figure you might right behind the glass. But please, the *Hostages* hostages as the window from time to time.

You see them about the arrival of your small squad on the roof and point the first one to shoot down and get lost first through a window. Once inside you view the proceedings from behind the scope of a machine gun. A small map indicates your position and that of any terrorists on that floor. As you move from room to room feed down-up shots direct nearby downwards to add to the tension. Suddenly an armed opponent will appear out of nowhere and you have no choice but to pump him full of lead. Action is very fast and you need to be pretty quick on the stick to hit his only a target. As there are 14 guys all ready and waiting to cut you in half, you'll be switching through to your second and then back up to back out all floors and find and rescue the hostages.

## CONCLUSION

Maybe a little tedious in the raid itself department - but that's never defined many of these titles - *Hostages* manages to effectively capture what we can only assume to be the reality of an armed siege. Luckily for the game, it is in the usual high standard of design work. It's not too far from other surviving strategy games, but the chance to feel the stress and of low actions make you find *Hostages* quite a liberating experience.

### with a graphics

0 1 2 3 4 5

### moving graphics

0 1 2 3 4 5

### soundtrack

0 1 2 3 4 5

### setting interest

0 1 2 3 4 5

overall 78%





# FIVE TOP HITS IN THIS SPECIAL PACK FOR YOUR ATARI ST.

*Only*  
**£24.95**



Barbarian is a classic action game where you play as a barbarian warrior. You can kill monsters, steal treasure, and explore a vast world. It's a great game for the Atari ST.



Crazy Cars is a racing game where you compete against other cars in a series of races. It's a fast-paced and exciting game for the Atari ST.



Wizard is a fantasy game where you play as a wizard. You can cast spells, fight monsters, and explore a magical world. It's a great game for the Atari ST.



Ruff Ruff is a platform game where you play as a dog named Ruff. You can jump, run, and fight enemies. It's a fun and challenging game for the Atari ST.



Wizard is a fantasy game where you play as a wizard. You can cast spells, fight monsters, and explore a magical world. It's a great game for the Atari ST.

IS THE BEST IN



ST VIDEO



**20-7** — All other items observed separately.

have to reboot, to play again — essential when there are other, less enjoyable, things to do. Also a sure sign that the programmers know they're on to a winner.

| Age Group | Very important | Important | Somewhat important | Not important | Don't know |
|-----------|----------------|-----------|--------------------|---------------|------------|
| 18-24     | 45%            | 35%       | 15%                | 5%            | 0%         |
| 25-34     | 40%            | 35%       | 15%                | 10%           | 0%         |
| 35-44     | 35%            | 30%       | 20%                | 15%           | 0%         |
| 45-54     | 30%            | 25%       | 25%                | 20%           | 0%         |
| 55-64     | 25%            | 20%       | 30%                | 25%           | 0%         |
| 65+       | 20%            | 15%       | 35%                | 30%           | 0%         |



**THE UNIVERSITY OF CHICAGO**

Special effects are also crafted in exquisite replicating a sense of motion and flow by still leaving the deep digital groove. Loading and unloading music helps complete the overall sense of movement.

[illegible]

11. **Answer: A** The patient is exhibiting signs of hypoxemia, which is a common complication of pneumonia. The patient's oxygen saturation is 90%, which is below the normal range of 95-100%. The patient's respiratory rate is 24 breaths per minute, which is above the normal range of 12-20 breaths per minute. The patient's heart rate is 100 beats per minute, which is above the normal range of 60-100 beats per minute. The patient's blood pressure is 120/80 mmHg, which is within the normal range. The patient's temperature is 38.5°C, which is above the normal range of 36-37.5°C. The patient's white blood cell count is 12,000/mm<sup>3</sup>, which is above the normal range of 4,000-11,000/mm<sup>3</sup>. The patient's chest X-ray shows consolidation in the right lower lung field, which is consistent with pneumonia. The patient's sputum culture is positive for *Streptococcus pneumoniae*, which is the most common cause of community-acquired pneumonia. The patient's symptoms and signs are consistent with pneumonia, and the patient's chest X-ray and sputum culture confirm the diagnosis. The patient's oxygen saturation is 90%, which is below the normal range of 95-100%. The patient's respiratory rate is 24 breaths per minute, which is above the normal range of 12-20 breaths per minute. The patient's heart rate is 100 beats per minute, which is above the normal range of 60-100 beats per minute. The patient's blood pressure is 120/80 mmHg, which is within the normal range. The patient's temperature is 38.5°C, which is above the normal range of 36-37.5°C. The patient's white blood cell count is 12,000/mm<sup>3</sup>, which is above the normal range of 4,000-11,000/mm<sup>3</sup>. The patient's chest X-ray shows consolidation in the right lower lung field, which is consistent with pneumonia. The patient's sputum culture is positive for *Streptococcus pneumoniae*, which is the most common cause of community-acquired pneumonia.

a gas a lai for Longhorn. It's the market place. You have got different parts of the car and engine, wiring and with the engine. Although the gas came from that it turned out to be a disaster for Colorado (it could be considered a gas). There were the engine stopped has been replaced with a great deal of time in style. In some like is working in the IT services, capital is equally appropriate when the small on that station.

overall 70%.

**THE SINGLE SOURCE FOR YOUR AMIGA NEEDS**  
**MAIL ORDER/SALES**

**Telephone: STAINES (0784) 66744**

**ENTREPRENEUR**, 90-91, October 1987, pp. 6-7.

[illegible]

1998, 1999, 2000, 2001, 2002, 2003, 2004, 2005, 2006, 2007, 2008, 2009, 2010, 2011, 2012, 2013, 2014, 2015, 2016, 2017, 2018, 2019, 2020, 2021, 2022, 2023, 2024, 2025, 2026, 2027, 2028, 2029, 2030, 2031, 2032, 2033, 2034, 2035, 2036, 2037, 2038, 2039, 2040, 2041, 2042, 2043, 2044, 2045, 2046, 2047, 2048, 2049, 2050, 2051, 2052, 2053, 2054, 2055, 2056, 2057, 2058, 2059, 2060, 2061, 2062, 2063, 2064, 2065, 2066, 2067, 2068, 2069, 2070, 2071, 2072, 2073, 2074, 2075, 2076, 2077, 2078, 2079, 2080, 2081, 2082, 2083, 2084, 2085, 2086, 2087, 2088, 2089, 2090, 2091, 2092, 2093, 2094, 2095, 2096, 2097, 2098, 2099, 2100, 2101, 2102, 2103, 2104, 2105, 2106, 2107, 2108, 2109, 2110, 2111, 2112, 2113, 2114, 2115, 2116, 2117, 2118, 2119, 2120, 2121, 2122, 2123, 2124, 2125, 2126, 2127, 2128, 2129, 2130, 2131, 2132, 2133, 2134, 2135, 2136, 2137, 2138, 2139, 2140, 2141, 2142, 2143, 2144, 2145, 2146, 2147, 2148, 2149, 2150, 2151, 2152, 2153, 2154, 2155, 2156, 2157, 2158, 2159, 2160, 2161, 2162, 2163, 2164, 2165, 2166, 2167, 2168, 2169, 2170, 2171, 2172, 2173, 2174, 2175, 2176, 2177, 2178, 2179, 2180, 2181, 2182, 2183, 2184, 2185, 2186, 2187, 2188, 2189, 2190, 2191, 2192, 2193, 2194, 2195, 2196, 2197, 2198, 2199, 2200, 2201, 2202, 2203, 2204, 2205, 2206, 2207, 2208, 2209, 2210, 2211, 2212, 2213, 2214, 2215, 2216, 2217, 2218, 2219, 2220, 2221, 2222, 2223, 2224, 2225, 2226, 2227, 2228, 2229, 2230, 2231, 2232, 2233, 2234, 2235, 2236, 2237, 2238, 2239, 2240, 2241, 2242, 2243, 2244, 2245, 2246, 2247, 2248, 2249, 2250, 2251, 2252, 2253, 2254, 2255, 2256, 2257, 2258, 2259, 2260, 2261, 2262, 2263, 2264, 2265, 2266, 2267, 2268, 2269, 2270, 2271, 2272, 2273, 2274, 2275, 2276, 2277, 2278, 2279, 2280, 2281, 2282, 2283, 2284, 2285, 2286, 2287, 2288, 2289, 2290, 2291, 2292, 2293, 2294, 2295, 2296, 2297, 2298, 2299, 2300, 2301, 2302, 2303, 2304, 2305, 2306, 2307, 2308, 2309, 2310, 2311, 2312, 2313, 2314, 2315, 2316, 2317, 2318, 2319, 2320, 2321, 2322, 2323, 2324, 2325, 2326, 2327, 2328, 2329, 2330, 2331, 2332, 2333, 2334, 2335, 2336, 2337, 2338, 2339, 2340, 2341, 2342, 2343, 2344, 2345, 2346, 2347, 2348, 2349, 2350, 2351, 2352, 2353, 2354, 2355, 2356, 2357, 2358, 2359, 2360, 2361, 2362, 2363, 2364, 2365, 2366, 2367, 2368, 2369, 2370, 2371, 2372, 2373, 2374, 2375, 2376, 2377, 2378, 2379, 2380, 2381, 2382, 2383, 2384, 2385, 2386, 2387, 2388, 2389, 2390, 2391, 2392, 2393, 2394, 2395, 2396, 2397, 2398, 2399, 2400, 2401, 2402, 2403, 2404, 2405, 2406, 2407, 2408, 2409, 2410, 2411, 2412, 2413, 2414, 2415, 2416, 2417, 2418, 2419, 2420, 2421, 2422, 2423, 2424, 2425, 2426, 2427, 2428, 2429, 2430, 2431, 2432, 2433, 2434, 2435, 2436, 2437, 2438, 2439, 2440, 2441, 2442, 2443, 2444, 2445, 2446, 2447, 2448, 2449, 2450, 2451, 2452, 2453, 2454, 2455, 2456, 2457, 2458, 2459, 2460, 2461, 2462, 2463, 2464, 2465, 2466, 2467, 2468, 2469, 2470, 2471, 2472, 2473, 2474, 2475, 2476, 2477, 2478, 2479, 2480, 2481, 2482, 2483, 2484, 2485, 2486, 2487, 2488, 2489, 2490, 2491, 2492, 2493, 2494, 2495, 2496, 2497, 2498, 2499, 2500, 2501, 2502, 2503, 2504, 2505, 2506, 2507, 2508, 2509, 2510, 2511, 2512, 2513, 2514, 2515, 2516, 2517, 2518, 2519, 2520, 2521, 2522, 2523, 2524, 2525, 2526, 2527, 2528, 2529, 2530, 2531, 2532, 2533, 2534, 2535, 2536, 2537, 2538, 2539, 2540, 2541, 2542, 2543, 2544, 2545, 2546, 2547, 2548, 2549, 2550, 2551, 2552, 2553, 2554, 2555, 2556, 2557, 2558, 2559, 2560, 2561, 2562, 2563, 2564, 2565, 2566, 2567, 2568, 2569, 2570, 2571, 2572, 2573, 2574, 2575, 2576, 2577, 2578, 2579, 2580, 2581, 2582, 2583, 2584, 2585, 2586, 2587, 2588, 2589, 2590, 2591, 2592, 2593, 2594, 2595, 2596, 2597, 2598, 2599, 2600, 2601, 2602, 2603, 2604, 2605, 2606, 2607, 2608, 2609, 2610, 2611, 2612, 2613, 2614, 2615, 2616, 2617, 2618, 2619, 2620, 2621, 2622, 2623, 2624, 2625, 2626, 2627, 2628, 2629, 2630, 2631, 2632, 2633, 2634, 2635, 2636, 2637, 2638, 2639, 2640, 2641, 2642, 2643, 2644, 2645, 2646, 2647, 2648, 2649, 2650, 2651, 2652, 2653, 2654, 2655, 2656, 2657, 2658, 2659, 2660, 2661, 2662, 2663, 2664, 2665, 2666, 2667, 2668, 2669, 2670, 2671, 2672, 2673, 2674, 2675, 2676, 2677, 2678, 2679, 26

Downloaded from [www.jstor.org](http://www.jstor.org) on Tue, 20 Jun 2017 12:00:00 UTC  
All use subject to [http://about.jstor.org/terms](#)

1730 03 MAY 2007

1000

DOI: 10.1002/anie.200500000

1144 JOURNAL OF POST KEYNESIAN ECONOMICS

**Conclusions:** The results of this study suggest that the use of a single, standardized, and validated questionnaire is a feasible and reliable method for assessing the prevalence of self-reported mental health problems in a community sample.

1998, 1999, 2000, 2001, 2002, 2003, 2004, 2005, 2006, 2007, 2008, 2009, 2010, 2011, 2012, 2013, 2014, 2015, 2016, 2017, 2018, 2019, 2020, 2021, 2022, 2023, 2024, 2025, 2026, 2027, 2028, 2029, 2030, 2031, 2032, 2033, 2034, 2035, 2036, 2037, 2038, 2039, 2040, 2041, 2042, 2043, 2044, 2045, 2046, 2047, 2048, 2049, 2050, 2051, 2052, 2053, 2054, 2055, 2056, 2057, 2058, 2059, 2060, 2061, 2062, 2063, 2064, 2065, 2066, 2067, 2068, 2069, 2070, 2071, 2072, 2073, 2074, 2075, 2076, 2077, 2078, 2079, 2080, 2081, 2082, 2083, 2084, 2085, 2086, 2087, 2088, 2089, 2090, 2091, 2092, 2093, 2094, 2095, 2096, 2097, 2098, 2099, 2100, 2101, 2102, 2103, 2104, 2105, 2106, 2107, 2108, 2109, 2110, 2111, 2112, 2113, 2114, 2115, 2116, 2117, 2118, 2119, 2120, 2121, 2122, 2123, 2124, 2125, 2126, 2127, 2128, 2129, 2130, 2131, 2132, 2133, 2134, 2135, 2136, 2137, 2138, 2139, 2140, 2141, 2142, 2143, 2144, 2145, 2146, 2147, 2148, 2149, 2150, 2151, 2152, 2153, 2154, 2155, 2156, 2157, 2158, 2159, 2160, 2161, 2162, 2163, 2164, 2165, 2166, 2167, 2168, 2169, 2170, 2171, 2172, 2173, 2174, 2175, 2176, 2177, 2178, 2179, 2180, 2181, 2182, 2183, 2184, 2185, 2186, 2187, 2188, 2189, 2190, 2191, 2192, 2193, 2194, 2195, 2196, 2197, 2198, 2199, 2200, 2201, 2202, 2203, 2204, 2205, 2206, 2207, 2208, 2209, 2210, 2211, 2212, 2213, 2214, 2215, 2216, 2217, 2218, 2219, 2220, 2221, 2222, 2223, 2224, 2225, 2226, 2227, 2228, 2229, 2230, 2231, 2232, 2233, 2234, 2235, 2236, 2237, 2238, 2239, 2240, 2241, 2242, 2243, 2244, 2245, 2246, 2247, 2248, 2249, 2250, 2251, 2252, 2253, 2254, 2255, 2256, 2257, 2258, 2259, 2260, 2261, 2262, 2263, 2264, 2265, 2266, 2267, 2268, 2269, 2270, 2271, 2272, 2273, 2274, 2275, 2276, 2277, 2278, 2279, 2280, 2281, 2282, 2283, 2284, 2285, 2286, 2287, 2288, 2289, 2290, 2291, 2292, 2293, 2294, 2295, 2296, 2297, 2298, 2299, 2300, 2301, 2302, 2303, 2304, 2305, 2306, 2307, 2308, 2309, 2310, 2311, 2312, 2313, 2314, 2315, 2316, 2317, 2318, 2319, 2320, 2321, 2322, 2323, 2324, 2325, 2326, 2327, 2328, 2329, 2330, 2331, 2332, 2333, 2334, 2335, 2336, 2337, 2338, 2339, 2340, 2341, 2342, 2343, 2344, 2345, 2346, 2347, 2348, 2349, 2350, 2351, 2352, 2353, 2354, 2355, 2356, 2357, 2358, 2359, 2360, 2361, 2362, 2363, 2364, 2365, 2366, 2367, 2368, 2369, 2370, 2371, 2372, 2373, 2374, 2375, 2376, 2377, 2378, 2379, 2380, 2381, 2382, 2383, 2384, 2385, 2386, 2387, 2388, 2389, 2390, 2391, 2392, 2393, 2394, 2395, 2396, 2397, 2398, 2399, 2400, 2401, 2402, 2403, 2404, 2405, 2406, 2407, 2408, 2409, 2410, 2411, 2412, 2413, 2414, 2415, 2416, 2417, 2418, 2419, 2420, 2421, 2422, 2423, 2424, 2425, 2426, 2427, 2428, 2429, 2430, 2431, 2432, 2433, 2434, 2435, 2436, 2437, 2438, 2439, 2440, 2441, 2442, 2443, 2444, 2445, 2446, 2447, 2448, 2449, 2450, 2451, 2452, 2453, 2454, 2455, 2456, 2457, 2458, 2459, 2460, 2461, 2462, 2463, 2464, 2465, 2466, 2467, 2468, 2469, 2470, 2471, 2472, 2473, 2474, 2475, 2476, 2477, 2478, 2479, 2480, 2481, 2482, 2483, 2484, 2485, 2486, 2487, 2488, 2489, 2490, 2491, 2492, 2493, 2494, 2495, 2496, 2497, 2498, 2499, 2500, 2501, 2502, 2503, 2504, 2505, 2506, 2507, 2508, 2509, 2510, 2511, 2512, 2513, 2514, 2515, 2516, 2517, 2518, 2519, 2520, 2521, 2522, 2523, 2524, 2525, 2526, 2527, 2528, 2529, 2530, 2531, 2532, 2533, 2534, 2535, 2536, 2537, 2538, 2539, 2540, 2541, 2542, 2543, 2544, 2545, 2546, 2547, 2548, 2549, 2550, 2551, 2552, 2553, 2554, 2555, 2556, 2557, 2558, 2559, 2560, 2561, 2562, 2563, 2564, 2565, 2566, 2567, 2568, 2569, 2570, 2571, 2572, 2573, 2574, 2575, 2576, 2577, 2578, 2579, 2580, 2581, 2582, 2583, 2584, 2585, 2586, 2587, 2588, 2589, 2590, 2591, 2592, 2593, 2594, 2595, 2596, 2597, 2598, 2599, 2600, 2601, 2602, 2603, 2604, 2605, 2606, 2607, 2608, 2609, 2610, 2611, 2612, 2613, 2614, 2615, 2616, 2617, 2618, 2619, 2620, 2621, 2622, 2623, 2624, 2625, 2626, 2627, 2628, 2629, 2630, 2631, 2632, 2633, 2634, 2635, 2636, 2637, 2638, 2639, 2640, 2641, 2642, 2643, 2644, 2645, 2646, 2647, 2648, 2649, 2650, 2651, 2652, 2653, 2654, 2655, 2656, 2657, 2658, 2659, 2660, 2661, 2662, 2663, 2664, 2665, 2666, 2667, 2668, 2669, 2670, 2671, 2672, 2673, 2674, 2675, 2676, 2677, 2678, 2679, 26

© 2004 Blackwell Publishing Ltd *Journal of Internal Medicine* 255: 105–112

As shown with MATHCOUNTS' Connections section

the above with other data

Direct specification analysis: p105+ cell  
CTP61-662-98

ANY OF OUR PRODUCTS MAY BE CHARGED WITH  
MAJOR CARD OR ACCESS FOR SAME DAY OPERATION

[illegible]

1998

- 486 computer
- 15-in. monitor
- 10MB, 100MB printer
- "The Winner"
- The champion

6200

DOI: 10.1002/for

ON CAMPUS SALES, PLEASE CALL FOR  
RENTAL & PURCHASE PRICES

Please send Cheung to a ...

EATHEMPT NORTHIMBER AND HOUSE PLACE AVENUE

GRESHAM ROAD, STAINES, MIDDLESEX TW18 3AF

Official Government Documents are not indexed. Please add EIC number classes as words under field 300 when using EIC.

## BEST BYTE

2 IN. HX 4. LUNGE TUNNELS, EIGHT T3 &amp; T40

**PUBLISHED BY THE UNIVERSITY OF CHICAGO PRESS**

Small, colorful, native to  
Florida, yellow, white  
flowers, the yellow  
flowers are small.

| NAME          | AGE | ADDRESS           | PHONE    | DATE     | TIME  | STATUS | REMARKS |
|---------------|-----|-------------------|----------|----------|-------|--------|---------|
| John Doe      | 25  | 123 Main St       | 555-1234 | 10/10/99 | 10:00 | Active |         |
| Jane Smith    | 30  | 456 Oak Ave       | 555-5678 | 10/10/99 | 11:00 | Active |         |
| Bob Johnson   | 28  | 789 Pine Rd       | 555-9012 | 10/10/99 | 12:00 | Active |         |
| Alice Brown   | 35  | 101 Elm St        | 555-3456 | 10/10/99 | 13:00 | Active |         |
| Charlie White | 22  | 202 Maple Dr      | 555-7890 | 10/10/99 | 14:00 | Active |         |
| Diana Green   | 32  | 303 Cedar Ln      | 555-2345 | 10/10/99 | 15:00 | Active |         |
| Frank Black   | 27  | 404 Birch Way     | 555-6789 | 10/10/99 | 16:00 | Active |         |
| Grace Hall    | 31  | 505 Walnut St     | 555-0123 | 10/10/99 | 17:00 | Active |         |
| Henry King    | 29  | 606 Cherry Ave    | 555-4567 | 10/10/99 | 18:00 | Active |         |
| Ivy Lee       | 26  | 707 Peach Rd      | 555-8901 | 10/10/99 | 19:00 | Active |         |
| Jack Miller   | 33  | 808 Apple St      | 555-2345 | 10/10/99 | 20:00 | Active |         |
| Karen Wilson  | 24  | 909 Orange Ave    | 555-6789 | 10/10/99 | 21:00 | Active |         |
| Leo Davis     | 36  | 1010 Grape Rd     | 555-0123 | 10/10/99 | 22:00 | Active |         |
| Mia Evans     | 23  | 1111 Lemon St     | 555-4567 | 10/10/99 | 23:00 | Active |         |
| Noah Foster   | 34  | 1212 Lime Ave     | 555-8901 | 10/10/99 | 24:00 | Active |         |
| Olivia Gibson | 27  | 1313 Coffee Rd    | 555-2345 | 10/10/99 | 25:00 | Active |         |
| Peter Hall    | 38  | 1414 Tea St       | 555-6789 | 10/10/99 | 26:00 | Active |         |
| Quinn Harris  | 21  | 1515 Coffee Ave   | 555-0123 | 10/10/99 | 27:00 | Active |         |
| Rachel King   | 37  | 1616 Sugar Rd     | 555-4567 | 10/10/99 | 28:00 | Active |         |
| Samuel Lee    | 25  | 1717 Honey St     | 555-8901 | 10/10/99 | 29:00 | Active |         |
| Tina Miller   | 39  | 1818 Butter Ave   | 555-2345 | 10/10/99 | 30:00 | Active |         |
| Uma Wilson    | 22  | 1919 Cream Rd     | 555-6789 | 10/10/99 | 31:00 | Active |         |
| Victor Brown  | 35  | 2020 Milk St      | 555-0123 | 10/10/99 | 32:00 | Active |         |
| Wendy Green   | 28  | 2121 Cheese Ave   | 555-4567 | 10/10/99 | 33:00 | Active |         |
| Xavier White  | 32  | 2222 Yogurt Rd    | 555-8901 | 10/10/99 | 34:00 | Active |         |
| Yara Black    | 26  | 2323 Ice Cream St | 555-2345 | 10/10/99 | 35:00 | Active |         |
| Zoe Hall      | 30  | 2424 Candy Ave    | 555-6789 | 10/10/99 | 36:00 | Active |         |

[illegible]

# SUMMER OLYMPIAD

TYNESOFT

ST - \$19.95, reviewed, joystick

Amiga - \$19.95, joystick

**M**odern Olympics have been held since 1896 but it seems our American cousins haven't really caught on yet: this game has been released as 'Summer Challenge' over there. Ironically, this is probably more appropriate

since the five sports events in Olympiad—the game—Tugle Jump, High Dive, Fencing, Hurdles and Desert Shooting, could hardly be described as representative of Olympiad The Games.



Jump a fence?



Just about to land after the dive attempted take off



Shoot that shoot



Will you miss the goal



Really looking into the hurdles?

## GAMEPLAY

Up to 6 players (each) in a position, after a brief loading, as among you find yourself with shot-gun in hand ready for a load of shoot-shooting. You can get for minor reason or possibly to leave the course across the city, controlling an animated figure with a gun. Each round has about 10 shots required, an average of 2 to 3 shots to complete. Thankfully you don't have to hit too accurate.

High jump is not on the list, and is the hardest of the five. You need to launch your opponent from left to right very rapidly in your opponent's speed and then pull back to (left) H. The where you want the (left) hand and the animated figure legs and steps, which you pull on the joystick figure to determine the degree of jump.

Fencing is controlled by the joystick, too, and you only against a computer opponent whose par-

ties and targets are gently categorized. The three rounds last 60, 75 and 90 seconds respectively and in (high) times you must make it fairly rapid (as possible).

The High Dive is perhaps the most fun since it's so fast that a real person would probably shatter an impact. With the joystick you control the speed of hurdle and amount of back before you take and attempt to enter the pool as gracefully as possible. As the dive is falling it can get quite complex—how about it? Forward into control with the joystick (as possible)?

Finally, Hurdles has some of the best animation (expected to be seen on a home movie) as you race with four competitors to a finishing line in the distance. Running into a hurdle doesn't lose you points—just time.

## CONCLUSION

Despite excellent graphics, sound and gameplay, it's not as though your mobile partner, even in any of the three events, would improve in a result of playing the game. As it wouldn't seem to apply to the experience, however, it's graphics are more pleasing and you should check it out for three stars.

## GRAPHICS AND SOUND

Demands graphics are of a very high quality. All screens are clearly drawn, smoothly animated and feature true perspective graphics. Each event is preceded by a different background music track and excellent start screens of hand drawn artwork. Tynesoft's programmers have concentrated on the animation of the computer—most effort has been put into the movement of the leaders, the event continues with a thing can view, moving down

from on high to track level. As the hurdles climb off your view remains constant, get behind your closest competitor. The smooth animation of the hurdles is first class.

Sound plays a useful ambient role: from the gun shots in (left) to the sound of running feet in Tugle Jump, from the squeals of High Dive to the crash of a hurdle as you hit it, spot-effects are very convincing.

|                  |           |
|------------------|-----------|
| best graphics    | 1 2 3 4   |
| moving graphics  | 1 2 3 4   |
| sound effects    | 1 2 3 4 5 |
| loading interest | 1 2 3 4 5 |
| overall 77%      |           |





# QUICKIES

**A pair of utilities come under the Format microscope - one to allow you to run mono and colour software all on the same ST monitor, another to save you Amiga disk space. How do they rate?**

## COMPRESS

£29.95 ■ ST only, all models ■ Extremes, Unit 27, Royal Mills Drive, Surrey KT10 8AR 0332 494325

If you've got your ST hooked up to a colour monitor or television then chances you will have looked on at one of the excellent packages offered by Atari's SMART/SMART mono monitor - not to mention all the very monochrome software that will then, perhaps if you have a monochrome monitor you'll probably have piled in on it the individual games and port programs available to take-monster work. (Stop looking sorry for yourself.) Obviously, Smarties only might just be the answer to your problems.

Compress does the same monochrome right upon mono to make which monitor you have connected

monochrome, because each item is called Compress where X is simply a number. If you're wanting a colour monitor then the display chooses one disk and sets to four grey scales and 16 grey scales. (And if you're ST owner can also select a landscape view or the view. 16 grey scales the last five options are for colour programs that try to treat the screen colours during select on.

Naturally the lower grey scales use the faster screen updating will be. Colour pictures displayed on a monochrome screen look very sharp but animations (games) can be reduced to full speed.

There's probably more of what I

mean on this is capable of - especially if you have hooked up with this. Won't even of hooked up with our last issues 1 and 2 disks. Compress only offers two versions of the monochrome resolution. The last version is for standard 520i and the other for machines with one megabyte or more screen updating is faster.

The monochrome monitor has four display modes, a scaled mono resolution of the 640 by 400 screen an expanded top half of the screen giving a four more screen added, and an expanded bottom half of the screen, and an expanded version that can be scaled from top to bottom using the mouse. You can flip between these modes at any time.

Programs which stick to GEM, rules work and with other similar. Protected games and other software (software does not. Check with Extremes that Compress will work with the programs you wish to run. There are hundreds that do work and hundreds that don't.

|                |     |
|----------------|-----|
| features       | 4.0 |
| performance    | 3.5 |
| ease of use    | 2.0 |
| manuals        | 3.0 |
| format version | 3.0 |



Illustration showing a colour screen on a black monitor.

Colors appear as shades of grey. All the features of DiskPro are also available. Game speed is reduced.

## DISKPRO-

£22 ■ Amiga only, all models ■ Amiga Centre Scotland, 4 Hart Street Lane, Edinburgh EH6 6HE 031 557 4042

May it be that no matter how large the capacity of your disk drive, be it 10MB, 10MB or even 20MB, your disks will soon be full at an alarming rate? More often than not this is due to old files you are keeping and in case, although they may be of no immediate use. One solution to this problem is to compress all your selected files and then decompress them only when they are required.

DiskPro+ is a file compression utility that claims to decrease the size

of a file by up to 50%. Your programs come on the disk that can be run from either the Workbench or from the D0. The main program, Disk Doubler, allows for the compression and decompression of files from within a friendly, windows-based front end, while the other three programs are being CLI based.

In our tests, several different file types were fed through DiskPro+ including an ASCII text file, an RTTBM (picture file), a program file and

an RTTBM (sound file). The files were shown in the box, with pre-compressed figures in bytes.

The figures given are on the whole representative of what you would expect from most file compressing programs. The extra 134 added onto the RTTBM file is rather surprising and demonstrates that there are definite flaws in the program's compression technique.

One thing that you should consider before looking out for DiskPro+ is what it offers, that is, compressing programs available in the file or Amiga libraries. Don't quite really matter. Save £22 by buying DiskPro.

|                |     |
|----------------|-----|
| features       | 3.0 |
| performance    | 3.0 |
| ease of use    | 3.0 |
| manuals        | 3.5 |
| format version | 1.0 |

## COMPRESSION METHODS

For those of you who are into extra, DiskPro+ uses a modified Lempel-Ziv technique. This usually works by searching for common substrings and replacing them with variable numbers. The compressed file is then saved with a .Z extension. In the 267,112 byte uncompressed figure, a file is of 10,000 bytes, which is fed through the decompressing program.

| File type       | Normal size | Compressed | Saving |
|-----------------|-------------|------------|--------|
| RTTBM           | 41255       | 40571      | 0.1%   |
| ASCII text file | 14519       | 8040       | 44.1%  |
| RTTBM           | 54819       | 267135     | -29.4% |
| Program         | 17408       | 10611      | 38.5%  |

**Top Quality 2nd Drives for the Amiga  
and Atari ST at low, low prices**

# Evesham Micros



- ✓ Offers full compatibility with all Atari models, Amiga 500 and Amiga 1000
- ✓ Top quality Citizen drive mechanism
- ✓ One megabyte unformatted capacity
- ✓ Internal plug in PSU (Atari II)
- ✓ Throughport (Amiga)
- ✓ Very quiet
- ✓ Slimline design
- ✓ Colour matched to computer
- ✓ Long cable for location either side of computer
- ✓ Full 12 months warranty

**Don't forget - all prices shown include VAT and delivery**

**NEW  
LOWER  
PRICE**

**£89.95**

including T&amp;T and delivery

# ATARI

1997, 1998, 1999, 2000, 2001, 2002, 2003, 2004, 2005, 2006, 2007, 2008, 2009, 2010, 2011, 2012, 2013, 2014, 2015, 2016, 2017, 2018, 2019, 2020, 2021, 2022, 2023, 2024, 2025, 2026, 2027, 2028, 2029, 2030, 2031, 2032, 2033, 2034, 2035, 2036, 2037, 2038, 2039, 2040, 2041, 2042, 2043, 2044, 2045, 2046, 2047, 2048, 2049, 2050, 2051, 2052, 2053, 2054, 2055, 2056, 2057, 2058, 2059, 2060, 2061, 2062, 2063, 2064, 2065, 2066, 2067, 2068, 2069, 2070, 2071, 2072, 2073, 2074, 2075, 2076, 2077, 2078, 2079, 2080, 2081, 2082, 2083, 2084, 2085, 2086, 2087, 2088, 2089, 2090, 2091, 2092, 2093, 2094, 2095, 2096, 2097, 2098, 2099, 2100, 2101, 2102, 2103, 2104, 2105, 2106, 2107, 2108, 2109, 2110, 2111, 2112, 2113, 2114, 2115, 2116, 2117, 2118, 2119, 2120, 2121, 2122, 2123, 2124, 2125, 2126, 2127, 2128, 2129, 2130, 2131, 2132, 2133, 2134, 2135, 2136, 2137, 2138, 2139, 2140, 2141, 2142, 2143, 2144, 2145, 2146, 2147, 2148, 2149, 2150, 2151, 2152, 2153, 2154, 2155, 2156, 2157, 2158, 2159, 2160, 2161, 2162, 2163, 2164, 2165, 2166, 2167, 2168, 2169, 2170, 2171, 2172, 2173, 2174, 2175, 2176, 2177, 2178, 2179, 2180, 2181, 2182, 2183, 2184, 2185, 2186, 2187, 2188, 2189, 2190, 2191, 2192, 2193, 2194, 2195, 2196, 2197, 2198, 2199, 2200, 2201, 2202, 2203, 2204, 2205, 2206, 2207, 2208, 2209, 2210, 2211, 2212, 2213, 2214, 2215, 2216, 2217, 2218, 2219, 2220, 2221, 2222, 2223, 2224, 2225, 2226, 2227, 2228, 2229, 2230, 2231, 2232, 2233, 2234, 2235, 2236, 2237, 2238, 2239, 2240, 2241, 2242, 2243, 2244, 2245, 2246, 2247, 2248, 2249, 2250, 2251, 2252, 2253, 2254, 2255, 2256, 2257, 2258, 2259, 2260, 2261, 2262, 2263, 2264, 2265, 2266, 2267, 2268, 2269, 2270, 2271, 2272, 2273, 2274, 2275, 2276, 2277, 2278, 2279, 2280, 2281, 2282, 2283, 2284, 2285, 2286, 2287, 2288, 2289, 2290, 2291, 2292, 2293, 2294, 2295, 2296, 2297, 2298, 2299, 2300, 2301, 2302, 2303, 2304, 2305, 2306, 2307, 2308, 2309, 2310, 2311, 2312, 2313, 2314, 2315, 2316, 2317, 2318, 2319, 2320, 2321, 2322, 2323, 2324, 2325, 2326, 2327, 2328, 2329, 2330, 2331, 2332, 2333, 2334, 2335, 2336, 2337, 2338, 2339, 2340, 2341, 2342, 2343, 2344, 2345, 2346, 2347, 2348, 2349, 2350, 2351, 2352, 2353, 2354, 2355, 2356, 2357, 2358, 2359, 2360, 2361, 2362, 2363, 2364, 2365, 2366, 2367, 2368, 2369, 2370, 2371, 2372, 2373, 2374, 2375, 2376, 2377, 2378, 2379, 2380, 2381, 2382, 2383, 2384, 2385, 2386, 2387, 2388, 2389, 2390, 2391, 2392, 2393, 2394, 2395, 2396, 2397, 2398, 2399, 2400, 2401, 2402, 2403, 2404, 2405, 2406, 2407, 2408, 2409, 2410, 2411, 2412, 2413, 2414, 2415, 2416, 2417, 2418, 2419, 2420, 2421, 2422, 2423, 2424, 2425, 2426, 2427, 2428, 2429, 2430, 2431, 2432, 2433, 2434, 2435, 2436, 2437, 2438, 2439, 2440, 2441, 2442, 2443, 2444, 2445, 2446, 2447, 2448, 2449, 2450, 2451, 2452, 2453, 2454, 2455, 2456, 2457, 2458, 2459, 2460, 2461, 2462, 2463, 2464, 2465, 2466, 2467, 2468, 2469, 2470, 2471, 2472, 2473, 2474, 2475, 2476, 2477, 2478, 2479, 2480, 2481, 2482, 2483, 2484, 2485, 2486, 2487, 2488, 2489, 2490, 2491, 2492, 2493, 2494, 2495, 2496, 2497, 2498, 2499, 2500, 2501, 2502, 2503, 2504, 2505, 2506, 2507, 2508, 2509, 2510, 2511, 2512, 2513, 2514, 2515, 2516, 2517, 2518, 2519, 2520, 2521, 2522, 2523, 2524, 2525, 2526, 2527, 2528, 2529, 2530, 2531, 2532, 2533, 2534, 2535, 2536, 2537, 2538, 2539, 2540, 2541, 2542, 2543, 2544, 2545, 2546, 2547, 2548, 2549, 2550, 2551, 2552, 2553, 2554, 2555, 2556, 2557, 2558, 2559, 2560, 2561, 2562, 2563, 2564, 2565, 2566, 2567, 2568, 2569, 2570, 2571, 2572, 2573, 2574, 2575, 2576, 2577, 2578, 2579, 2580, 2581, 2582, 2583, 2584, 2585, 2586, 2587, 2588, 2589, 2590, 2591, 2592, 2593, 2594, 2595, 2596, 2597, 2598, 2599, 2600, 2601, 2602, 2603, 2604, 2605, 2606, 2607, 2608, 2609, 2610, 2611, 2612, 2613, 2614, 2615, 2616, 2617, 2618, 2619, 2620, 2621, 2622, 2623, 2624, 2625, 2626, 2627, 2628, 2629, 2630, 2631, 2632, 2633, 2634, 2635, 2636, 2637, 2638, 2639, 2640, 2641, 2642, 2643, 2644, 2645, 2646, 2647, 2648, 2649, 2650, 2651, 2652, 2653, 2654, 2655, 2656, 2657, 2658, 2659, 2660, 2661, 2662, 2663, 2664, 2665, 2666, 2667, 2668, 2669, 2670, 2671, 2672, 2673, 2674, 2675, 2676, 2677, 2678, 26

**RESEARCH IN WOMANLY FASHION**  
**COLLEGE TOWN** 1985-1986 1987-1988 1989-1990

Only \$1.49 each

[illegible]

**Abstract** The purpose of this study was to determine if there were differences in the self-reported health status of patients who had been hospitalized at least once during the previous year compared to those who had not been hospitalized. A cross-sectional survey design was used. Data were collected from 600 patients who were randomly selected from two hospitals. The results showed that patients who had been hospitalized at least once during the previous year reported significantly poorer health status than those who had not been hospitalized.

## PRINTERS

All prices include VAT delivery and cable

[illegible]

## 3.5" Disk

[illegible]

How to order from  
**Eyeformations**

Phone us with your ACCESS or VISA card details on .  
1-800-775-5555

**DOUBLE TAKE  
PHILIPS  
TV/MONITOR  
(MODEL 23001)**

highly complex, multi-layered system. Furthermore, the great power to hold the EU in place is not in the hands of the member states, but in the hands of the central European banks, which are not under democratic control. The EU is a system of control, not of freedom.

**SPECIAL  
OFFER**  
**\$199.00**

1. **Introduction**  
 2. **Background**  
 3. **Methodology**  
 4. **Results**  
 5. **Conclusion**  
 6. **References**

# DISSECTOR<sup>ST</sup> POWER ALARM 12 5000

VERSION 3 NOW AVAILABLE

- **SOFTWARE SCALES** with new turbo releases
  - The latest version now incorporates a faster and more powerful backup utility including 40 parameter options to handle many more computers, drives and available disks and tapes.
- **SOFTWARE SCALES** with new turbo releases
  - Extremely useful double backup routines, providing essential data management capabilities including FORMAT, REFORMAT, DISKCOPY, etc.
- **DATA PROTECT**
  - 100% backup scale on your data - provides over 50% additional core storage space per disk
- **MANAGE** and **SET** (MS-DOS) accessories.
- **UNIVERSITY**
  - to increase productivity and file size.
- **DISK ANALYSIS**
- **DIRECTORY MANAGER**
- plus **FILE INDEX CHECK**, **UNIFORM** and more!

**Only £24.95**—**£24.95**—**£24.95**

[illegible]

**Everhart Motors Ltd.**  
40 BRIDGE STREET  
FVRHAM  
WOMBS WENT 45P  
☎ 0486-765500  
124 HARRIS STREET  
www.everhart.co.uk







# DISK EXTRA

ST Amiga Format's unique dual format disk gives you the best of both ST and Amiga worlds! Jason Holborn details this month's cover disk programs.

## ST

### 74 PIPE PANIC

Go deep underground for Slack Gold, while avoiding all hazards it looks good, sounds great and plays great! What more could you ask for?

### 75 MANDELBROT GENERATOR



Mandelbrots can be fun! Create screens full of chaotic color with this Mandelbrot pattern generator.

### 77 SPELLER

Boost those embarrassing spelling mistakes with this great little Spelling Checker program. Speller even lets you add your own words to its dictionary.

### 77 ST\_INIT

Lost only the accessories you want? ST\_INIT lets you keep your ST completely under control.

### 77 PRO

#### CALCULATOR

Whether you're a programmer or just fascinated with numbers, Pro Calc will help you figure out the figures and save you the sums.

### 77 RAT TRAP

Keep those mouses firmly fixed to the mouse bar and you won't lose them. Rat Trap is a clever little mouse-catch-and-release device.

## AMIGA



### 74 MISSILE COMMAND

Defend your cities from another alien onslaught in this fast and furious arcade game. Missile Command's very sampled sounds for extra realism and will have you glued to your Amiga for hours on end.



### 75 EFF2PCS

This great little game lets you learn/refresh 85 picture into a picture. We've even included a rotation gallery for you to toper with.

### 75 VT100

Communicate with the outside world using this fully-featured console program. Join the console brigade with VT100 and a modem.



### 75 LENS

Take the stress off of the old eyes with this handy little screen mag. LENS lets you zoom in on any part of the Workbench screen.

### 79 MICROLO UPGRADE

Step up with the software by upgrading your Amiga to a more powerful processor. Upgrade the 68000 with a 68010 and spend up! Great programs for as little as \$9.99.

## WE'RE PAYING £800 FOR GOOD SOFTWARE ON OUR COVER DISK

We're looking for good quality software to fill our cover disk each month. If you're a hobby programmer, you could earn big bucks from your labours - games, business applications, utilities, or anything of general interest. We're also interested in any specially original graphics you may have created with art packages, either for inclusion on the disk or printing in the magazine.

Turn to the end of this section for more details on how to get your software onto the Format cover disk.

## ST

First, copy and load the disk as described at the end of the Disk Extra section.

### PIPE PANIC

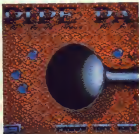
by K. Swaine  
Colour STs only

FILENAME: P.PANIC.PRG

Tip of the tail on the ST two months of Pipe Panic, a game which features excellent graphics and sound. Written completely in BASIC, the program is a superb example of what can be achieved with the language (after some programming's hard to take).

The aim of the game is to collect all the oil blobs scattered about the screen while avoiding the enemy ground robots. Once you've completed one screen, it's on to the next in a challenging series of 10. After every two screens there's a bonus bonus game where you try to collect all the oil blobs in the fastest possible time for a high bonus.

Load Pipe Panic either by clicking on the P.PANIC.PRG icon on the



desktop or by selecting it from the CLICK ME menu program. Pipe Panic is written completely in Fast BASIC and uses the standard system font that language to produce a stand alone program. Once the runtime programs have loaded, you have to load the game from disk by selecting

Load Program from the File menu. At this screen you also don't get all the files in the root directory of the root disk. Click on the P.PANIC icon and then double-click on the file P.PANIC.BAS to load it. Once it's loaded, select Run Program from the File menu and the game starts.

## AMIGA

First, copy and load the disk as described at the end of Disk Extra. These programs run on all three Amiga models. We have been unable to test them on the early version of the Amiga 1000.

### MISSILE COMMAND

Public Domain ■ All Amigas

FILENAMES: MISSILE.COMMAND, MISSILE.DOC

It fast and fun, you decide when a year ago look no further. Missile Command contains all the elements that make a great arcade game.



great graphics, shattering sound, and immediate playability.

The aim of the game is to prevent the missiles being launched as often as possible (as often as you can). Up to 10 missiles (some) launchers would be proud of you (as is certainly the statistics in mid-flight) before they reach the ground, splitting certain ones for the human race.

You can load Missile Command either from an open disk using program CLICK ME, or by clicking directly on the Missile Command icon on the Workbench. The sampled sounds are not loaded but need to be copied from within the program. So this by selecting Load Sounds from the Sounds menu, the program always try to load the game's sounds from drive 0:2, so always play Missile Command from disk in your Amiga's internal drive.

If you have access to a sound sampler or any sampled sounds in ST format, it is possible to replace the loaded samples with yours, if you own. All the Missile Command samples and with sound so you should have no problem loading them. To actually replace a sound copy the new sound file into the Missile Command disk with the same filename as any of the existing sound files.



## MANDELBROT GENERATOR

by J Rask

Colour: 5 to 16bit

FILENAME: MANDEL.PRG, MANDEL.DOC

Over a year ago, I realised that I had been fascinated with Mandelbrot sets (and I hope of my readers). I'll leave subjective testing of all of them to J. Rask. It was judged the best.

A Mandelbrot set is the visual representation of a mathematical expression involving the area around the

origin of the complex plane. Complex numbers are typically written the shape of this equation, but the results of plugging the Mandelbrot set into the program are generated by this program on your PC - all you have to do is enter a few parameters and go back!

A word of warning for those who expect instant results: Mandelbrot plots require a lot of very complex built-in mathematics and even the mighty C6402 processor can get a little sluggish, so be prepared to wait. Full instructions on the Mandelbrot set can be found in the program's documentation file: MANDEL.DOC.

## MANDELBROT

The Mandelbrot set was discovered in 1981 by a very clever chap by the name of Benoit Mandelbrot. Ever since then, computers around the world have been churning out pictures of the mathematical set. To what extent Mandelbrot's picture is too complex for the home you will find out when you enter all of the set's many complex numbers. Although the area is finite - that's why the circle is defined by a point - it's never that small a point in Mandelbrot's world. The fractal geometry of objects: the shape is infinitely complex and of infinite length.

## IFF2PC65

All Amigas

FILENAMES: IFF2PC65

IFF2PC65.DOC

IFF pictures are all very well, but they're not as much use once they're finished. It's a bit of a pity, then, that once they're completed they are usually just left on a disk for goodness knows what use at all for who cares? IFF2PC65 is an impressive little game with the added advantage of making use of your IFF art.

IFF2PC65 takes any lower 16 colour IFF picture and cuts it up into pieces. The size and number of these depends on the level of difficulty. The game isn't that demanding and it's quite easy to play over a game that IFF2PC65 will look very fancy.

IFF2PC65 is run by clicking on one of the pictures in the same directory as the main program. It can't be run by clicking on the program icon itself. Alternatively you can load IFF2PC65 from the menu program (CLICK ME, having been CLICK ME) automatically loads IFF2PC65 and the same stage each time, so to get any other you should load the program from the Workbench.

Any IFF lower 16 colour picture can be used with IFF2PC65 as long as you first make a simple change to the default tool within its icon information file, so that it automatically loads the game program. To do this, select the IFF file icon by clicking on it from the Workbench and press the right mouse button to show the Workbench menu. Select Item from the Workbench and the IFF file's icon information is



displayed. Find the default tool field and click somewhere within it. If there is already text within the field tap a different picture for it will show something like (CLICK ME) - delete that

enter (IFF2PC65) and press Return. Select GIVE and your picture file is fit for use as a picture as long as IFF2PC65 is in the root directory of your disk.

# SIREN SOFTWARE

## SECOND DISC DRIVE

Add an extra drive for only £84.99

Our superb drive can really help you make the most of your ST allowing complex software to be run without disc swapping etc. The drive comes complete with all cables to connect it to any ATAPI 1040 STP or 520 STPM

- ★ Ultra quiet
- ★ Slim styling, colour matched to the ST
- ★ Top quality Citizen/NEC drive mechanism
- ★ 1 megabyte capacity (unformatted)
- ★ Full one year parts and labour guarantee

Available now only **£84.99** inc. VAT & P&P

NEW

## ... AMIGA SOUNDBLASTER ...

NEW

Everyone knows that the Amiga has the best sound facilities available on any popular computer today. Unfortunately until now, unless you could external your Amiga to your stereo system you could not appreciate the quality of the sound.

The AMIGA SOUNDBLASTER is a small stereo amplifier that comes complete with 2 high quality 20 Watt TT in ear speakers. It is easily connected to your Amiga (500/1000) and adds a new dimension to all games.

- ★ Comes complete with 2 high quality stereo speakers
- ★ Twin volume/balance controls
- ★ Headphone socket
- ★ Very easy to connect
- ★ Compatible with all software/hardware

\*\*\* Free stereo headphones with all orders for a limited period \*\*\*

Amiga Soundblaster is just **£39.99** including VAT and P&P

**SIREN SOFTWARE TEL 061 228 1831**  
**2-4 OXFORD ROAD, MANCHESTER M1 5QA**



# Heronby Services Ltd

## COMPUTER SERVICES

Personal, Home, Small Company, Domestic Computers and more  
+ FREE ASSETS OF PERIPHERALS AND ADD-ONS (AS AVAILABLE)  
+ Computer repairs, upgrades, and software

THIS IS A VERY SMALL SELECTION from our EXTENSIVE CATALOGUE  
SEND NOW FOR YOUR FREE COPY

### GAMES

|      |        |
|------|--------|
| 1001 | £75.00 |
| 1011 | £75.00 |
| 1021 | £75.00 |
| 1031 | £75.00 |
| 1041 | £75.00 |
| 1051 | £75.00 |
| 1061 | £75.00 |
| 1071 | £75.00 |
| 1081 | £75.00 |
| 1091 | £75.00 |
| 1101 | £75.00 |
| 1111 | £75.00 |
| 1121 | £75.00 |
| 1131 | £75.00 |
| 1141 | £75.00 |
| 1151 | £75.00 |
| 1161 | £75.00 |
| 1171 | £75.00 |
| 1181 | £75.00 |
| 1191 | £75.00 |
| 1201 | £75.00 |
| 1211 | £75.00 |
| 1221 | £75.00 |
| 1231 | £75.00 |
| 1241 | £75.00 |
| 1251 | £75.00 |
| 1261 | £75.00 |
| 1271 | £75.00 |
| 1281 | £75.00 |
| 1291 | £75.00 |
| 1301 | £75.00 |

### ADVENTURES/STRATEGY

|      |        |
|------|--------|
| 1311 | £75.00 |
| 1321 | £75.00 |
| 1331 | £75.00 |
| 1341 | £75.00 |
| 1351 | £75.00 |
| 1361 | £75.00 |
| 1371 | £75.00 |
| 1381 | £75.00 |
| 1391 | £75.00 |
| 1401 | £75.00 |
| 1411 | £75.00 |
| 1421 | £75.00 |
| 1431 | £75.00 |
| 1441 | £75.00 |
| 1451 | £75.00 |
| 1461 | £75.00 |
| 1471 | £75.00 |
| 1481 | £75.00 |
| 1491 | £75.00 |
| 1501 | £75.00 |
| 1511 | £75.00 |
| 1521 | £75.00 |
| 1531 | £75.00 |
| 1541 | £75.00 |
| 1551 | £75.00 |
| 1561 | £75.00 |
| 1571 | £75.00 |
| 1581 | £75.00 |
| 1591 | £75.00 |
| 1601 | £75.00 |

### UTILITIES

### HARDWARE

|      |        |
|------|--------|
| 1611 | £75.00 |
| 1621 | £75.00 |
| 1631 | £75.00 |
| 1641 | £75.00 |
| 1651 | £75.00 |
| 1661 | £75.00 |
| 1671 | £75.00 |
| 1681 | £75.00 |
| 1691 | £75.00 |
| 1701 | £75.00 |
| 1711 | £75.00 |
| 1721 | £75.00 |
| 1731 | £75.00 |
| 1741 | £75.00 |
| 1751 | £75.00 |
| 1761 | £75.00 |
| 1771 | £75.00 |
| 1781 | £75.00 |
| 1791 | £75.00 |
| 1801 | £75.00 |

### SPECIAL

Call 01 228 1831

See us at

ST-BOURNE 1987 FOR OUTSIDE PC SOFTWARE NOW IN STOCK ALSO 1 + 2  
WEAR AWARDING ALL BOOKS REVIEWED BY THE PRESS

Order/credit notes payable to: HERONBY SERVICES LTD  
Average 2% for orders under £50 OVER £50 10%

NAME

ADDRESS

DEPT STAM

☐ YES (PLEASE) ☐ NO (PLEASE)

## SPELLER

Public Domain

Macintosh/Mc-Plus 512s only  
**FILENAMES: SPELL.TOS,  
 SPELLER.DOC**

Macintosh's spelling checker? Spelling lessons related with spelling mistakes to your Basic Manager (or even FontMaster - built in a sure way to improve less. If you're just one of the those people who never could get the hang of the English language and its complications, then Speller will do a great job for you.

It acts as an ABC file, checking the spelling of words by comparing them with its own list entry of commonly used words. The dictionary grows much time it finds a word that is correct again but not already listed.

When Speller finds a word it thinks is incorrect, it starts scanning the file and you can choose to ignore the word, change its spelling or enter it into the dictionary.

You can test Speller from CLICK ME or by directly clicking on it's icon from the desktop. Once loaded, you will be prompted to enter the filename of the dictionary. The dictionary installed on the cover disk is called SPELLER.DOC - enter the name including the file path to the file and the dictionary is loaded into memory. Finally you enter the filename of the ASCII file you want to check, and Speller starts doing it's job.



## RAT TRAP

by A. Thomas

All 512s  
**FILENAMES:  
 RAT\_TRAP.ACC,  
 RAT\_TRAP.DOC**

How many times have you accidentally moved the mouse pointer over the mouse bar on the GEM Desktop and dropped down a menu that you didn't want? It can get annoying after a while, and if help is at hand in the form of this trap, an especially useful desktop accessory.

Rat Trap starts GEM as the owner, only drops down when you click on the mouse bar or the menu bar. Anyway the Macintosh does it. Two modes are available: full and partial.

## PRO CALCULATOR

Public Domain

All 512s  
**FILENAMES: PRO.CALC.ACC,  
 PRO.CALC.DOC**

One nice feature of the Amiga's WHIMP system is the very handy calculator included as every desktop app. This little gem kind of a program is available (except in the Amiga Workbench system) with the Calc 512 owners can also benefit from having a calculator resident on a desktop.

accessory. Once installed, select Calculator from the Desk menu and a powerful programmer's calculator is instantly at your disposal.

Pro Calc is an accounting program and therefore cannot be loaded like a console and program from the CLICK ME menu. To use any accessory like a multi-task file in the root directory of your boot disk. Copy the PRO.CALC.ACC file into the root directory of your disk by dragging it from the GEM Desktop directory of the cover disk. Boot your 512 and insert your work disk into drive A. GEM automatically loads Pro Calc and any other accessories and puts them in the Desk menu.

Desk File View Options



## ST INIT

by S. Walker

All 512s  
**FILENAMES: ST\_INIT.PRO,  
 ST\_INIT.DOC**

Desktop Accessories are wonderful things, but they have two drawbacks: only so can be loaded at once and they take up memory all the time they're loaded, even when they're not running. What if it be were if you could choose which accessories are loaded when the 512 boots up? Well, now you can with ST\_INIT.

ST\_INIT displays lots of useful

information about your 512 during boot, lets you set the system time and date and select which accessories are to be loaded.

You can load ST\_INIT either by selecting it from CLICK ME or by clicking on ST\_INIT.M65 from the desktop. Although ST\_INIT runs live from the Desktop, I also designed it to sit in the AUTO folder of your work disk. Copy ST\_INIT.PRO and the AUTO folder by dragging it to the AUTO folder in the root directory of your work disk.

Full instructions are included with the program under the filename ST\_INIT.DOC.

And if Mac menus don't appeal to you, Rat Trap is turned off along with it.

Rat Trap is a desk accessory and therefore cannot be loaded like a console program from the CLICK ME menu. To be able to use any accessory like a multi-task file in the root directory of your boot disk. Copy RAT\_TRAP.ACC into the root directory of your disk by dragging it from the GEM Desktop directory of the cover disk. Boot your 512 and insert your work disk into drive A. GEM automatically loads Rat Trap and any other accessories and puts them in the Desk menu.

## DISK DOCUMENTATION

Many of the programs on ST Amiga format disks are Public Domain. In such cases we're unable to obtain the original documentation files unchanged as is required by the GEMDOS system. Some of the programs in this section still use the original documentation for the system.

**CONSULT GULTRONICS BEFORE COMMITTING!**



# HOW TO USE THIS DISK

The ST Amiga Format cover disk is a special format disk which both the ST and the Amiga can read. Even if you are a seasoned computer user, please read these instructions carefully so you could permanently damage your copy of it.

The first thing you must do is make a backup copy of the disk. Because of the special format, the reversal double-side copying methods at workstations on the Amiga and AT manuals would not initiate you will need to format a blank disk and copy the files manually. Don't panic, this isn't at all difficult.

## DISK TROUBLE?

We have done our best to check that the programs supplied on this master disk are capable to run, serve data and have no known viruses. However, we cannot accept liabilities for any damage to the software and we do not accept liability for any consequences of using the programs.

We supplied 40-288 disks a month and it is inevitable that a few will be faulty. If after you are sure you have followed the instructions on this page carefully you still discovered that your master disk is defective, you can send it back for a free replacement.

ST Amiga Format Cover Disk, Delivery List: 80 Days, Class, Bratislava, September 1988-1991

Please allow us to do this work for your disk to be processed. AMIGA (SME) If your Amiga refuses to recognize the disk before sending it back try using the DDRAWIOFST utility as described on page 82 of issue 1. Don't worry that using these gives you a "hard error" - this is the Amiga being unable to read the ST parts of the disk.

## WE WANT TO GIVE YOU MONEY!

If you've got any programs for either ST or Amiga which you think other readers would find useful, interesting or amusing, we'd like to know. There's lots to go about securing information from you, so:

1. Only send programs on ST disks (we cannot accept printed things)
2. Please name your disk as clearly labeled with your name and address and the program's name. It must contain ST or Amiga.
3. Please save there's a documentation for the disk called **DISCARD**.
4. Enclose a short covering note explaining what the program does, and if you possibly can please also send a printed of any on-disk documentation files. Enclose your address and telephone number. Details in stamped return envelope for the disk if you want it back.
5. **100% NO REFUND!** There must be a signed statement that the program is yours and that you are prepared to assign publishing rights to ST Amiga Format. Use the following wording:

"The program is (write the title here) is/are owned and published by ST Amiga Format (company). It is my own work and has not been submitted for publication elsewhere."

Sign it.

If an Amiga program, we will get in touch with you before publication to agree terms and payment later. We will certainly do submissions in a batch once a month or more often up to all days for values of your disk. We will only send back disks with adequate return postage and packing.

If it you send us a disk with a virus on it, we reserve the right to send mail the floppy disk to the local health and the appropriate things to your and maybe. Seriously, since we've already supplied thousands programs for issue 1, we check your disks very carefully.

## ON THE ST (Assuming a single drive machine)

1. Take a blank disk and format it in the usual way.
2. With the blank disk in the drive double click on the A disk icon to open up the blank contents window.
3. Now drag the icon for disk B into the open window of disk A. This will copy all the files into it by one of the transfer disk to your new disk. Make sure that the window ST Amiga Format disk is write protected (the sliding tab should be back so the disk is opened) and put it in the disk drive when asked for disk B.
4. This will now be completed at various times to insert disk A and disk B while copying. Last place. There will be a lot of waiting to do on a single drive ST Disk. It should be the master disk disk A your newly formatted copy.

If you want to cut down on disk swaps and understand enough about the GEM you can set up a RAM disk using the utility provided on the July 1988 disk and use that as an intermediate step.

## ON THE AMIGA (Assuming a single drive Amiga)

1. Start your Amiga up with your normal Workbench floppy disk.
2. Take a blank disk and initialize it in the usual way.
3. Make sure that the master ST Amiga Format disk is write protected and put it in the drive. Double click on the disk icon that appears. Drag any code you can't fit in the contents window into the GEM disk icon.
4. When the disk activity light has gone out put your newly formatted copy disk in the drive instead. Double click on the disk icon to open its window up and drag code from that onto the new disk icon. This will copy the files on by one.

The programs may not fit in the RAM disk all at once so in AMIGOS disk window will be, then after disk is cleared then from the RAM disk by clicking once on each disk, holding the right mouse button down (pressing GEM) from the Workbench menu. Repeat steps 2 and 3 for the rest of the icons.

## USING THE PROGRAMS

**ON THE ST**  
When you turn the ST on and put your working copy of the disk in the drive you will see a window opened with the contents of the disk displayed.

One of the icons is called **CLICK.ME.PRG** - put it where it fits, double-click to run it. Up comes a list

of the disk contents. Type the number of the program you want to run, and you are asked whether you want to read the disk help file or not.

You can now be asked whether you want to run the program or not. An "X" alternative is to type **CLICK.ME.PRG** if you know enough about GEM you can click directly on the icon for individual programs. These programs have names the same as the programs to which they are sub with a GEM header. Always read the documentation before running the program.

## ON THE AMIGA

Most of the programs on the cover disk are run from the Workbench which must be loaded first from your normal startup disk as described in the Amiga manual. Once at the Workbench put the ST Amiga Format disk in the drive and double-click on its icon to open it.

You will see an icon called **CLICK.ME** - this is a menu pulldown which takes you into the programs and their documentation. Double-click on its icon to run it. It will ask you for a sample of disk input, so put before the program's requirements to load the program.

Most of the programs on the disk can be executed from **CLICK.ME** by selecting them from the menu and choosing either to view the program's documentation or to load the program. If a program has to load from the more than a few minutes, happens through shortage of memory or other pending systems you can load it



from the Workbench instead by clicking on the icon.

To load a program from the Workbench you must first click open the drawer which contains it. For detailed comments from the program's author click on the **CLICK** icon on the same folder to run the program icon as the start icon.

When you click on a documentation file it is seen window is opened and the text is displayed in a scrollable window. There's any key to move from one scrollable to the next, or click on the Close pulldown in the top left-hand corner of the window to cancel the display. The **CLICK.ME** icon gives you a brief summary of the disk contents and how to use it.



## NEW DISC PRICES

# 3 1/2

Lifetime  
Guaranteed,  
double sided,  
double density,  
135 TPI/blank  
wrapped discs  
with labels

| Quantity  | Price  |
|-----------|--------|
| 10 .....  | £3.99  |
| 20 .....  | £17.99 |
| 25 .....  | £20.99 |
| 50 .....  | £43.99 |
| 100 ..... | £84.99 |

# 5 1/4

Lifetime  
Guaranteed,  
double sided,  
double density,  
48 TPI/blank  
wrapped discs  
with labels

| Quantity  | Price  |
|-----------|--------|
| 10 .....  | £3.50  |
| 20 .....  | £6.50  |
| 25 .....  | £7.99  |
| 50 .....  | £15.50 |
| 100 ..... | £31.00 |

## NEW DISC PACKAGE DEALS

### 3.5 inch

|                                |         |
|--------------------------------|---------|
| 40 discs + 40 cap. box .....   | £39.99  |
| 80 discs + 80 cap. box .....   | £74.99  |
| 120 discs + 120 cap. box ..... | £114.99 |

### 5.25 inch

|                                |        |
|--------------------------------|--------|
| 50 discs + 50 cap. box .....   | £17.99 |
| 100 discs + 100 cap. box ..... | £34.99 |
| 140 discs + 140 cap. box ..... | £45.99 |

## LOCKABLE DISC STORAGE BOXES

|                                                            |       |                    |       |     |
|------------------------------------------------------------|-------|--------------------|-------|-----|
| 40 capacity .....                                          | £5.49 | 50 capacity .....  | £3.49 |     |
| 80 capacity .....                                          | £7.49 | 100 capacity ..... | £7.49 |     |
| 120 capacity .....                                         | £9.99 | 140 capacity ..... | £9.49 |     |
| Plastic Storage Box - holds 10 (state 3.5" or 5.25") ..... |       |                    |       | 75p |

**AT LEAST 30% OFF ALL 16 BIT SOFTWARE**

**ALL PRINTERS NOW WITH FREE BOX OF PAPER**

**BRANDED DISCS - SONY, TDK, VERBATIM, DYSAN 3.5" DISC  
FULLY GUARANTEED MEDIA - BEST PRICES IN UK!**

## HARDWARE

**AT LEAST 10% OFF ALL HARDWARE**

|                                                               |         |
|---------------------------------------------------------------|---------|
| COMMODORE AMIGA A500 with 10 discs + mouse mat .....          | £359.99 |
| ATARI - NEW 520 STE/M Summer Pack Plus 10 Disc + M. mat. .... | £349.99 |
| EPSON LQ-500 24 pin letter quality printer .....              | £349.99 |
| CUMANA 1Mb Disc Drive. State Atan/Omega + 5 blank discs ..... | £199.99 |
| *ALL COMPUTERS WITH VIRUS KILLER DISC! *                      |         |

P&P Free on all orders over £15, under £15 add 75p P&P (UK only)  
Overseas disc orders, add £3 P&P  
All prices include VAT!

## Cestrian Software

52, Brook Street  
Chesler CH1 3DN  
Phone 0244 312666  
CALLERS WELCOME



**U  
N  
B  
E  
A  
T  
A  
B  
L  
E  
  
P  
R  
I  
C  
E  
S**





1ST FLOOR, 22 WINTON HILL, CAPITAL PALACE BLDG.  
TELEPHONE: 31-70-8871

Software, Computers, Printers, Joysticks,  
Business, D.T.P. Assets, Adventures, Mouses,  
Blank Disks and much more!!

ANNE

|                     |       |                     |       |
|---------------------|-------|---------------------|-------|
| Advised II          | 14.00 | Adam Serdones       | 10.00 |
| Basic Criminal I    | 14.00 | Bruce Commeyne      | 10.00 |
| Forensic Project    | 14.00 | City Districts      | 10.00 |
| Cost Est            | 14.00 | Craig Givert        | 14.00 |
| Comp Arch           | 14.00 | European Society    | 10.00 |
| European Society    | 14.00 | S.L.P.              | 10.00 |
| European Society    | 14.00 | Fine and Fagan      | 10.00 |
| Forensic Wars       | 14.00 | Flight Simulator II | 10.00 |
| Forensic Manager II | 14.00 | Gold                | 10.00 |
| Fine and Fagan      | 14.00 | Good Watson         | 10.00 |
| Flight Simulator II | 14.00 | Japan Society       | 10.00 |
| Good Watson         | 14.00 | Jel                 | 10.00 |
| Japan Society       | 14.00 | John Rounding       | 10.00 |
| John Rounding       | 14.00 | Street Fighter      | 10.00 |
| Street Fighter      | 14.00 | Suburban Sign       | 10.00 |
| Suburban Sign       | 14.00 | Sunda Pans          | 10.00 |
| Sunda Pans          | 14.00 | Thomson             | 10.00 |
| Thomson             | 14.00 | Wagon               | 10.00 |
| Wagon               | 14.00 | Wagon               | 10.00 |

JOURNAL OF MANAGEMENT INQUIRY / December 2006

IF YOU WANT TO COME AND COLLECT YOUR  
ORDERS FROM US PLEASE PHONE FIRST

PHONE FOR A VARIETY OF HOME  
COMPUTERS FOR SALE

MOUSE PAD £4.95  
 PRO 3330 JOYSTICK £14.95  
 QUICKSHOT II £9.95  
 BT MOUSE £22.95  
 PRINTER PAPER + LABELS  
 JOYSTICK ADAPTORS £4.95  
 GAUNTLET, LEATHERNECK  
 SEE NEWS SECTION P11.99 FOR TRS

## REFERENCES

|               |        |
|---------------|--------|
| CYTOXIC       | 78.00  |
| PROLIFERATION | 49.00  |
| LATENCY Q10-4 | 124.00 |
| REPRODUCTION  | 11.00  |

## 1500 5000 + VAT

**Abstract**

ADAMS, D. W., D. E. BARNETT, M. C. BARNETT, & R. E. HITCHAMUNTER. 1990.

|                      |         |
|----------------------|---------|
| 1024 COL. MONITOR    | 0208-00 |
| 1030 EXT. DRIVE      | 0100-00 |
| 204.0 MEMORY UPGRADE | 0100-00 |

1111

David B. B. has full-time appointments as an associate professor in both departments.

|      |      |      |      |      |         |
|------|------|------|------|------|---------|
| 1001 | 1001 | 1001 | 1.00 | 1001 | 1001.00 |
| 1002 | 1002 | 1002 | 1.00 | 1002 | 1002.00 |
| 1003 | 1003 | 1003 | 1.00 | 1003 | 1003.00 |
| 1004 | 1004 | 1004 | 1.00 | 1004 | 1004.00 |
| 1005 | 1005 | 1005 | 1.00 | 1005 | 1005.00 |
| 1006 | 1006 | 1006 | 1.00 | 1006 | 1006.00 |
| 1007 | 1007 | 1007 | 1.00 | 1007 | 1007.00 |
| 1008 | 1008 | 1008 | 1.00 | 1008 | 1008.00 |
| 1009 | 1009 | 1009 | 1.00 | 1009 | 1009.00 |
| 1010 | 1010 | 1010 | 1.00 | 1010 | 1010.00 |
| 1011 | 1011 | 1011 | 1.00 | 1011 | 1011.00 |
| 1012 | 1012 | 1012 | 1.00 | 1012 | 1012.00 |
| 1013 | 1013 | 1013 | 1.00 | 1013 | 1013.00 |
| 1014 | 1014 | 1014 | 1.00 | 1014 | 1014.00 |
| 1015 | 1015 | 1015 | 1.00 | 1015 | 1015.00 |
| 1016 | 1016 | 1016 | 1.00 | 1016 | 1016.00 |
| 1017 | 1017 | 1017 | 1.00 | 1017 | 1017.00 |
| 1018 | 1018 | 1018 | 1.00 | 1018 | 1018.00 |
| 1019 | 1019 | 1019 | 1.00 | 1019 | 1019.00 |
| 1020 | 1020 | 1020 | 1.00 | 1020 | 1020.00 |
| 1021 | 1021 | 1021 | 1.00 | 1021 | 1021.00 |
| 1022 | 1022 | 1022 | 1.00 | 1022 | 1022.00 |
| 1023 | 1023 | 1023 | 1.00 | 1023 | 1023.00 |
| 1024 | 1024 | 1024 | 1.00 | 1024 | 1024.00 |
| 1025 | 1025 | 1025 | 1.00 | 1025 | 1025.00 |
| 1026 | 1026 | 1026 | 1.00 | 1026 | 1026.00 |
| 1027 | 1027 | 1027 | 1.00 | 1027 | 1027.00 |
| 1028 | 1028 | 1028 | 1.00 | 1028 | 1028.00 |
| 1029 | 1029 | 1029 | 1.00 | 1029 | 1029.00 |
| 1030 | 1030 | 1030 | 1.00 | 1030 | 1030.00 |
| 1031 | 1031 | 1031 | 1.00 | 1031 | 1031.00 |
| 1032 | 1032 | 1032 | 1.00 | 1032 | 1032.00 |
| 1033 | 1033 | 1033 | 1.00 | 1033 | 1033.00 |
| 1034 | 1034 | 1034 | 1.00 | 1034 | 1034.00 |
| 1035 | 1035 | 1035 | 1.00 | 1035 | 1035.00 |
| 1036 | 1036 | 1036 | 1.00 | 1036 | 1036.00 |
| 1037 | 1037 | 1037 | 1.00 | 1037 | 1037.00 |
| 1038 | 1038 | 1038 | 1.00 | 1038 | 1038.00 |
| 1039 | 1039 | 1039 | 1.00 | 1039 | 1039.00 |
| 1040 | 1040 | 1040 | 1.00 | 1040 | 1040.00 |
| 1041 | 1041 | 1041 | 1.00 | 1041 | 1041.00 |
| 1042 | 1042 | 1042 | 1.00 | 1042 | 1042.00 |
| 1043 | 1043 | 1043 | 1.00 | 1043 | 1043.00 |
| 1044 | 1044 | 1044 | 1.00 | 1044 | 1044.00 |
| 1045 | 1045 | 1045 | 1.00 | 1045 | 1045.00 |
| 1046 | 1046 | 1046 | 1.00 | 1046 | 1046.00 |
| 1047 | 1047 | 1047 | 1.00 | 1047 | 1047.00 |
| 1048 | 1048 | 1048 | 1.00 | 1048 | 1048.00 |
| 1049 | 1049 | 1049 | 1.00 | 1049 | 1049.00 |
| 1050 | 1050 | 1050 | 1.00 | 1050 | 1050.00 |
| 1051 | 1051 | 1051 | 1.00 | 1051 | 1051.00 |
| 1052 | 1052 | 1052 | 1.00 | 1052 | 1052.00 |
| 1053 | 1053 | 1053 | 1.00 | 1053 | 1053.00 |
| 1054 | 1054 | 1054 | 1.00 | 1054 | 1054.00 |
| 1055 | 1055 | 1055 | 1.00 | 1055 | 1055.00 |
| 1056 | 1056 | 1056 | 1.00 | 1056 | 1056.00 |
| 1057 | 1057 | 1057 | 1.00 | 1057 | 1057.00 |
| 1058 | 1058 | 1058 | 1.00 | 1058 | 1058.00 |
| 1059 | 1059 | 1059 | 1.00 | 1059 | 1059.00 |
| 1060 | 1060 | 1060 | 1.00 | 1060 | 1060.00 |
| 1061 | 1061 | 1061 | 1.00 | 1061 | 1061.00 |
| 1062 | 1062 | 1062 | 1.00 | 1062 | 1062.00 |
| 1063 | 1063 | 1063 | 1.00 | 1063 | 1063.00 |
| 1064 | 1064 | 1064 | 1.00 | 1064 | 1064.00 |
| 1065 | 1065 | 1065 | 1.00 | 1065 | 1065.00 |
| 1066 | 1066 | 1066 | 1.00 | 1066 | 1066.00 |
| 1067 | 1067 | 1067 | 1.00 | 1067 | 1067.00 |
| 1068 | 1068 | 1068 | 1.00 | 1068 | 1068.00 |
| 1069 | 1069 | 1069 | 1.00 | 1069 | 1069.00 |
| 1070 | 1070 | 1070 | 1.00 | 1070 | 1070.00 |
| 1071 | 1071 | 1071 | 1.00 | 1071 | 1071.00 |
| 1072 | 1072 | 1072 | 1.00 | 1072 | 1072.00 |
| 1073 | 1073 | 1073 | 1.00 | 1073 | 1073.00 |
| 1074 | 1074 | 1074 | 1.00 | 1074 | 1074.00 |
| 1075 | 1075 | 1075 | 1.00 | 1075 | 1075.00 |
| 1076 | 1076 | 1076 | 1.00 | 1076 | 1076.00 |
| 1077 | 1077 | 1077 | 1.00 | 1077 | 1077.00 |
| 1078 | 1078 | 1078 | 1.00 | 1078 | 1078.00 |
| 1079 | 1079 | 1079 | 1.00 | 1079 | 1079.00 |
| 1080 | 1080 | 1080 | 1.00 | 1080 | 1080.00 |
| 1081 | 1081 | 1081 | 1.00 | 1081 | 1081.00 |
| 1082 | 1082 | 1082 | 1.00 | 1082 | 1082.00 |
| 1083 | 1083 | 1083 | 1.00 | 1083 | 1083.00 |
| 1084 | 1084 | 1084 | 1.00 | 1084 | 1084.00 |
| 1085 | 1085 | 1085 | 1.00 | 1085 | 1085.00 |
| 1086 | 1086 | 1086 | 1.00 | 1086 | 1086.00 |
| 1087 | 1087 | 1087 | 1.00 | 1087 | 1087.00 |
| 1088 | 1088 | 1088 | 1.00 | 1088 | 1088.00 |
| 1089 | 1089 | 1089 | 1.00 | 1089 | 1089.00 |
| 1090 | 1090 | 1090 | 1.00 | 1090 | 1090.00 |
| 1091 | 1091 | 1091 | 1.00 | 1091 | 1091.00 |
| 1092 | 1092 | 1092 | 1.00 | 1092 | 1092.00 |
| 1093 | 1093 | 1093 | 1.00 | 1093 | 1093.00 |
| 1094 | 1094 | 1094 | 1.00 | 1094 | 1094.00 |
| 1095 | 1095 | 1095 | 1.00 | 1095 | 1095.00 |
| 1096 | 1096 | 1096 | 1.00 | 1096 | 1096.00 |
| 1097 | 1097 | 1097 | 1.00 | 1097 | 1097.00 |
| 1098 | 1098 | 1098 | 1.00 | 1098 | 1098.00 |
| 1099 | 1099 | 1099 | 1.00 | 1099 | 1099.00 |
| 1100 | 1100 | 1100 | 1.00 | 1100 | 1100.00 |
| 1101 | 1101 | 1101 | 1.00 | 1101 | 1101.00 |
| 1102 | 1102 | 1102 | 1.00 | 1102 | 1102.00 |
| 1103 | 1103 | 1103 | 1.00 | 1103 | 1103.00 |
| 1104 | 1104 | 1104 | 1.00 | 1104 | 1104.00 |
| 1105 | 1105 | 1105 | 1.00 | 1105 | 1105.00 |
| 1106 | 1106 | 1106 | 1.00 | 1106 | 1106.00 |
| 1107 | 1107 | 1107 | 1.00 | 1107 | 1107.00 |
| 1108 | 1108 | 1108 | 1.00 | 1108 | 1108.00 |
| 1109 | 1109 | 1109 | 1.00 | 1109 | 1109.00 |
| 1110 | 1110 | 1110 | 1.00 | 1110 | 1110.00 |
| 1111 | 1111 | 1111 | 1.00 | 1111 | 1111.00 |
| 1112 | 1112 | 1112 | 1.00 | 1112 | 1112.00 |
| 1113 | 1113 | 1113 | 1.00 | 1113 | 1113.00 |
| 1114 | 1114 | 1114 | 1.00 | 1114 | 1114.00 |
| 1115 | 1115 | 1115 | 1.00 | 1115 | 1115.00 |
| 1116 | 1116 | 1116 | 1.00 | 1116 | 1116.00 |
| 1117 | 1117 | 1117 | 1.00 | 1117 | 1117.00 |
| 1118 | 1118 | 1118 | 1.00 | 1118 | 1118.00 |
| 1119 | 1119 | 1119 | 1.00 | 1119 | 1119.00 |
| 1120 | 1120 | 1120 | 1.00 | 1120 | 1120.00 |
| 1121 | 1121 | 1121 | 1.00 | 1121 | 1121.00 |
| 1122 | 1122 | 1122 | 1.00 | 1122 | 1122.00 |
| 1123 | 1123 | 1123 | 1.00 | 1123 | 1123.00 |
| 1124 | 1124 | 1124 | 1.00 | 1124 | 1124.00 |
| 1125 | 1125 | 1125 | 1.00 | 1125 | 1125.00 |
| 1126 | 1126 | 1126 | 1.00 | 1126 | 1126.00 |
| 1127 | 1127 | 1127 | 1.00 | 1127 | 1127.00 |
| 1128 | 1128 | 1128 | 1.00 | 1128 | 1128.00 |
| 1129 | 1129 | 1129 | 1.00 | 1129 | 1129.00 |
| 1130 | 1130 | 1130 | 1.00 | 1130 | 1130.00 |
| 1131 | 1131 | 1131 | 1.00 | 1131 | 1131.00 |
| 1132 | 1132 | 1132 | 1.00 | 1132 | 1132.00 |
| 1133 | 1133 | 1133 | 1.00 | 1133 | 1133.00 |
| 1134 | 1134 | 1134 | 1.00 | 1134 | 1134.00 |
| 1135 | 1135 | 1135 | 1.00 | 1135 | 1135.00 |
| 1136 | 1136 | 1136 | 1.00 | 1136 | 1136.00 |
| 1137 | 1137 | 1137 | 1.00 | 1137 | 1137.00 |
| 1138 | 1138 | 1138 | 1.00 | 1138 | 1138.00 |
| 1139 | 1139 | 1139 | 1.00 | 1139 | 1139.00 |
| 1140 | 1140 | 1140 | 1.00 | 1140 | 1140.00 |
| 1141 | 1141 | 1141 | 1.00 | 1141 | 1141.00 |
| 1142 | 1142 | 1142 | 1.00 | 1142 | 1142.00 |
| 1143 | 1143 | 1143 | 1.00 | 1143 | 1143.00 |
| 1144 | 1144 | 1144 | 1.00 | 1144 | 1144.00 |
| 1145 | 1145 | 1145 | 1.00 | 1145 | 1145.00 |
| 1146 | 1146 | 1146 | 1.00 | 1146 | 1146.00 |
| 1147 | 1147 | 1147 | 1.00 | 1147 | 1147.00 |
| 1148 | 1148 | 1148 | 1.00 | 1148 | 1148.00 |
| 1149 | 1149 | 1149 | 1.00 | 1149 | 1149.00 |
| 1150 | 1150 | 1150 | 1.00 | 1150 | 1150.00 |
| 1151 | 1151 | 1151 | 1.00 | 1151 | 1151.00 |
| 1152 | 1152 | 1152 | 1.00 | 1152 | 1152.00 |
| 1153 | 1153 | 1153 | 1.00 | 1153 | 1153.00 |
| 1154 | 1154 | 1154 | 1.00 | 1154 | 1154.00 |
| 1155 | 1155 | 1155 | 1.00 | 1155 | 1155.00 |
| 1156 | 1156 | 1156 | 1.00 | 1156 | 1156.00 |
| 1157 | 1157 | 1157 | 1.00 | 1157 | 1157.00 |
| 1158 | 1158 | 1158 | 1.00 | 1158 | 1158.00 |
| 1159 | 1159 | 1159 | 1.00 | 1159 | 1159.00 |
| 1160 | 1160 | 1160 | 1.00 | 1160 | 1160.00 |
| 1161 | 1161 | 1161 | 1.00 | 1161 | 1161.00 |
| 1162 | 1162 | 1162 | 1.00 | 1162 | 1162.00 |
| 1163 | 1163 | 1163 | 1.00 | 1163 | 1163.00 |
| 1164 | 1164 | 1164 | 1.00 | 1164 | 1164.00 |
| 1165 | 1165 | 1165 | 1.00 | 1165 | 1165.00 |
| 1166 | 1166 | 1166 | 1.00 | 1166 | 1166.00 |
| 1167 | 1167 | 1167 | 1.00 | 1167 | 1167.00 |
| 1168 | 1168 | 1168 | 1.00 | 1168 | 1168.00 |
| 1169 | 1169 | 1169 | 1.00 | 1169 | 1169.00 |
| 1170 | 1170 | 1170 | 1.00 | 1170 | 1170.00 |
| 1171 | 1171 | 1171 | 1.00 | 1171 | 1171.00 |
| 1172 | 1172 | 1172 | 1.00 | 1172 | 1172.00 |
| 1173 | 1173 | 1173 | 1.00 | 1173 | 1173.00 |
| 1174 | 1174 | 1174 | 1.00 | 1174 | 1174.00 |
| 1175 | 1175 | 1175 | 1.00 | 1175 | 1175.00 |
| 1176 | 1176 | 1176 | 1.00 | 1176 | 1176.00 |
| 1177 | 1177 | 1177 | 1.00 | 1177 | 1177.00 |
| 1178 | 1178 | 1178 | 1.00 | 1178 | 1178.00 |
| 1179 | 1179 | 1179 | 1.00 | 1179 | 1179.00 |
| 1180 | 1180 | 1180 | 1.00 | 1180 | 1180.00 |
| 1181 | 1181 | 1181 | 1.00 | 1181 | 1181.00 |
| 1182 | 1182 | 1182 | 1.00 | 1182 | 1182.00 |
| 1183 | 1183 | 1183 | 1.00 | 1183 | 1183.00 |
| 1184 | 1184 | 1184 | 1.00 | 1184 | 1184.00 |
| 1185 | 1185 | 1185 | 1.00 | 1185 | 1185.00 |
| 1186 | 1186 | 1186 | 1.00 | 1186 | 1186.00 |
| 1187 | 1187 | 1187 | 1.00 | 1187 | 1187.00 |
| 1188 | 1188 | 1188 | 1.00 | 1188 | 1188.00 |
| 1189 | 1189 | 1189 | 1.00 | 1189 | 1189.00 |
| 1190 | 1190 | 1190 | 1.00 | 1190 | 1190.00 |
| 1191 | 1191 | 1191 | 1.00 | 1191 | 1191.00 |
| 1192 | 1192 | 1192 | 1.00 | 1192 | 1192.00 |
| 1193 | 1193 | 1193 | 1.00 | 1193 | 1193.00 |
| 1194 | 1194 | 1194 | 1.00 | 1194 | 1194.00 |
| 1195 | 1195 | 1195 | 1.00 | 1195 | 1195.00 |
| 1196 | 1196 | 1196 | 1.00 | 1196 | 1196.00 |
| 1197 | 1197 | 1197 | 1.00 | 1197 | 1197.00 |
| 1198 | 1198 | 1198 | 1.00 | 1198 | 1198.00 |
| 1199 | 1199 | 1199 | 1.00 | 1199 | 1199.00 |
| 1200 | 1200 | 1200 | 1.00 | 1200 | 1200.00 |

[illegible]

**Table 1**

[illegible]

Please include VdF and LSI postage. Make Cheques payable to  
CIB Computers Limited, 9 Green Parade, Green Lane  
Milton, Surrey GU14 0BA.  
Phone 0447 7960. Telex 96 02 188 2778 (telecom) 020 0200.







## WHAT'S NEW IN VERSION 2?

Version 2 of AIRT features several enhancements over its predecessor, as well as the expected upgrades. Support for RT printers has been extended so that they can be programmed for use later in a program, thereby getting down on the ground of data economy. Developer would consider a random access file program which otherwise simply found that the majority of failures in version 2 are related to AIRT's format facility which makes the handling of forms very much easier. One other addition the enhanced user will appreciate is the ability to add fragments of previously programmed code (if or desired) to a new

structure. WHILE AIRT2 input and for the many project programs. As well as the standard program control commands, AIRT has a comprehensive list of commands for screen handling, the control and display/output control. Using all these different screens lets you make most programs with a minimal amount of knowledge of the Airt2.

Airt2 formats, such as speech synthesis, BODs and others are all available from within AIRT and most points and most. This can be used (the RT, BOD and BOD) the formats respectively. Airt2 programs can also call external programs written in other languages using a system of labels provided. Using these methods gives the AIRT programmer access to some powerful facilities only available in the low level languages such as C and assembler.

## First catch your program

To write a program under AIRT you first load the editor which is included with the package. This screen, a screen display containing 75 frames each of which is divided into 25 cells. Each cell can contain a single main code word after you've selected it there, the screen changes to show you a section of the frame-sized map and you write your program by clicking on the main you require and copying them to cells on the grid. A new screen is then displayed showing all the information for that particular code. By clicking back on this screen you can add parameters to the command represented by the code in list of variables to be printed, for instance. Most code commands require at least one parameter to be passed to them, before they are entered into a program.

The AIRT editor includes many of the functions you'd expect in a text editor such as cutting text compared with typewriter made in a text editor and insert and delete which if you're entering and deleting lines, it's a text editor. One nice feature is that the editor automatically updates the rest of your program when you insert or delete words, so you can't accidentally get your code out of order.

The useful programs included in the AIRT package is a format editor which lets those included with the more powerful relational database systems work on. Separator Professional. The AIRT format editor allows you to load RT printers for use

as a backdoor to your screen display through an image. In fact you can place all the required labels into the form. Once the completed form is saved, it can then be recalled at a later date to use in your program.

Once you've written your program you can compile it to its executable program. Unlike most language compilers, AIRT is completely event. Once you've clicked on the compiler icon from the Workbench, a small window

AIRT programs are not obviously fast but are a good deal quicker than AmigaBasic.

## In the limit

So what kind of person would benefit from AIRT's approach to programming? The authors, PDI Software feel it is probably best suited to the programmer who requires a total solution to a programming problem or to the experienced but busy programmer. While a beginner would certainly benefit from AIRT's approach, it's doubtful whether the professional programmer would change the habits of programs and switch to AIRT's method of writing.

Airt2 probably best suited to a learning tool. Its design encourages structured programming and top down design and could be an excellent tool in teaching the concepts

## IFF FORMATS

IFF is the format used to describe the structured data for most of Amiga's file system.

Standard IFF formats used to describe the most popular are as follows:

IFFANIM - Animation  
IFFINFO - Sound Samples  
IFFTEXT - Text  
IFFFORM - Font

IFF is a new standard for format that is as simple as ever at its heart. The IFF FORM is divided into several parts. The first part is the main data area. It is divided into several parts. It is divided into several parts. It is divided into several parts.

## PROGRAMMING WITH AIRT



Writing a program under AIRT is a simple process and it means that designing flow charts and conventional programming. If you've ever worked with AmigaBasic then program may with AIRT should be simple.

The listing in this panel is an extremely simple example of an AIRT program. It prompts the user for two numbers, adds them together, displays the result and waits for ( Waits ) to be pressed before finishing. Seven variables or fields are called in AIRT have to be defined. Three of which contain the actual screen text.

Line 1 - empty program must have a start and finish and these are marked by a connector and a terminator icon. The connector icon is automatically placed onto your program

grid when you start an empty frame.

Line 2 and 3 - display a text string on the screen to prompt the user to enter a number. Two parameters must be supplied, the string to be displayed and the name of the field to hold the user's input.

Line 4 - adds the two numbers together and stores the result in a variable field. Line 5 - prints the sum of the two figures on the screen, complete with a little message. Line 6 - pauses the program until the user presses ( Waits ). AIRT automatically ends and closes an output window at the start and end of a program. This icon is used to prevent the output window closing so that the final message is displayed.

allows to show the current state of compilation. If any errors are found, they're automatically written to a log file which can be viewed at your leisure. The actual error messages are not very helpful and can be too much for casual things. The last compiled programs are not completely understandable. It's always AIRT's runtime problems. AIRT2 has to be on the same disk as the program.

AIRT included in the AIRT disk is a good utility for obtaining a hard copy of your program. This lets you print your program either as text, like a conventional programming language

or as a graphic dump of all the icons in your program. The printed display of fields and parameters used by each icon and can be as valuable as the when debugging. Compared

## for

- the full range of basic programming features
- easy way of learning programming
- editing/developing simple programs
- then include Amiga IFF protocols, independent source in programs

## against

- can be laborious to build even simple programs
- difficult not to be flexible as a conventional language

## Amiga

1 2 3 4 5 6 7 8 9 10

1 2 3 4 5 6 7 8 9 10

1 2 3 4 5 6 7 8 9 10

1 2 3 4 5 6 7 8 9 10

1 2 3 4 5 6 7 8 9 10

1 2 3 4 5 6 7 8 9 10







# **ATARI ST - AMIGA**

FOR THE BEST VALUE  
IN

68000 COMPUTING  
**CALL US TODAY**

## **PERIPHERALS**

DISC DRIVES, PRINTERS,  
MONITORS, CABLES, DISCS,  
STORAGE BOXES.

**AT PRICES YOU'LL LIKE**

## **SOFTWARE**

A WIDE RANGE FOR BOTH MACHINES  
**MANY BARGAIN PRICES**

## **REPAIRS & SERVICE**

IN OUR OWN FULLY EQUIPED  
WORKSHOP

*FINANCE AVAILABLE - ACCESS, VISA WELCOME*

**BATH COMPUTER SHACK**

**8E CHELSEA RD, LOWER WESTON,  
BATH, AVON. BA13DU**

**TEL: (0225) 310300**



# WORKBENCH

Expand your Amiga's consciousness with this mind-blowing collection of top tips. Creating and editing icons is the major theme this month, for which a £30 prize goes to Norman Little of Preston.

## Creating double icons

Normally, when you click on an icon it gives you a limited response. Consider, for instance, how it is when you click on a commercial product: though there is a fast image - when you click on from a while time when appears. This is often used to create a possible animation effect. An example in the month's icons and there are a few more, click on it and the wheel spins.

You can create your own double icon with the aid of a utility on the standard Amiga Extras disk called IconMaga. First, you need to create the two separate icon images. For this, you need the icon editor. Loaded. As an example, let's create a new icon for the Workbench clock tool, in which the clock hands move round when you click it.

Run the icon editor - that is, opened fully and in the Amiga manual on pages 5-11 instructs make sure you are only working with copies of any master disks. From the Workbench, open the System drawer at your Startup disk and double-click on the IconEdit icon. Once a fast loaded an information box about tool type appears - click on OK.

You can save time as you go to change and edit it as though you were in a paint package. Load the Clock icon from the Disk menu, you now have two choices. From and then in Save Full image. You will have noticed that the icon doesn't actually take up all of the file that it's edited in. If you click on Save Full image then the whole editing area is saved. It's often more use-



**1** - The Clock icon in the System drawer of your Workbench disk. Load up the supplied Clock icon to edit it.



**2** - Save the current image as G00002 with Save Full image.



**3** - After putting IconEdit your new settings in the 'Tools' drawer of the editor disk. Follow the prompts to create a new G00002 icon containing



**4** - Control the icon in the IconEdit tool. Move icons.



**5** - Now you can edit the icon to move the hands round, then save it as G00002.



**6** - Before and after - look at the Workbench, your Clock icon is now animated.







# READER OFFERS

**Our selection of the best goodies we could find in the marketplace today.**

## DELUXE PAINT II

**AMIGA • £59.95 (RRP £69.95)**

This is something else — Electronic Arts' graphics program which comes from the US with pushing pride. You can paint on a 'canvas' that is bigger than the monitor screen — 1008 by 1024 pixels, using 32 colours in low resolution or 16 colours in high resolution. Full percent age colour mix includes hue, saturation and contrast for each colour. Other features include full zooming with special animation effects



### FREE DISKS

A pack of 5 high-quality 5.25" disks is yours when you buy Deluxe Paint II from us!

new calendars, cards, newspapers — anything can be done with a splash of style which really lets your imagination loose!

Order Code P022AM

## THE ST AMIGA DISK WALLET!

**Just £6.95 including free disk!**

The handy wallet holds ten 3.5 inch disks, and guarantees them safely from X-ray devices. The wallet, in grey nylon with black edging and gold embossed logo on the front, is hard-backed and has two velcro stickers. An essential purchase for anyone on the move needing to keep disks safe.

Order Code P041DW

## THE ST AMIGA FORMAT DISK ORGANISER!

**Just £7.99 including loads of paper!**

This standard F60x (8) size ring binder is an essential purchase for any self-respecting ST/Amiga owner. The 80 pages are divided into four sections — blank sheets, a filename list, a disk list/space organiser and a directory or folder list.

With gold embossed logo on black, the Organiser lets you keep track of everything in your software library — and transfer them from and to other standard size binders too.

As well as that there is a list of the street dates for every issue until December 1989! Go for it — you won't be disappointed!

Order Code P046DO

## POWER BASIC Atari ST • £39.95 + HiSoft!

One of the trustworthiest Atari ST owners feels is the relatively poor BASIC supplied with the machine. HiSoft's Power BASIC is superior in many ways which is why we've made it the basis for our BASIC programming

### FREE SOFTWARE!

A disk containing powerful Atari ST utilities is yours when you order HiSoft Basic from ST/Amiga Format.

### Course Features/Includes

- Complete creates stand alone programs
- Unlimited string length
- Complete ACS and WTA access
- Joystick access
- Run-time statements
- Load and use resource files

If you want your ST to run the best BASIC programs this is the one you'll need.

Order Code P031BT

## DIGICALC Atari ST and Amiga • £29.95 (RRP £39.95)

This spreadsheet from Digis International has already established a reputation for itself on both the ST and the Amiga. Features include fast recalculation speed; full sheet held entirely in memory and user defined function key macros. Features/opts in issue 2.

Order Code (ST) P032ST (Amiga) P032AM

**CREDIT CARD HOTLINE**  
**0458 74011**



# THIS MAGAZINE IS RUBBISH.

## DISK BOXES AND MOUSE MATS ARE USELESS.

## THE SPECTRUM IS THE WORLD'S GREATEST COMPUTER.

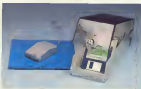
If you agree with any of these statements, please turn the page now. For those still reading, we'd like to make an offer you'll find hard to refuse. Take out a launch subscription to *Spectrum Format* and we'll send you a complimentary gift pack, consisting of a high quality, hard-wearing mouse mat (RRP £5.95) and a smart, lockable disk box (RRP £12.95).

A 12-issue subscription costs just £29.95 and that of course includes a disk packed with software on every issue.

We hope you'll agree that *Spectrum Format* offers spectacular value for money and provides valuable coverage of all aspects of your computer. If so, you'd better guarantee yourself a monthly copy, because you can be sure of one thing: the magazine won't be hanging around long on newsagents' shelves.

### NO QUIBBLE GUARANTEE

If, after receiving three issues of *Spectrum Format* you decide you no longer wish to subscribe, you may write to us and obtain a full refund for all remaining issues - you need not be able to keep your gift pack.



### FREE WHEN YOU SUBSCRIBE!

- Smart, high quality **disk box** holding up to 40 5.25in disks
- Hinged, anodised perimeter, lockable lid keeps away the dirt
- Supplied with dividers for easy disk filing
- Normal retail price £12.95

### plus

- High-quality, hard-wearing **mouse mat**
- Rubber base, nylon top for smooth mouse movement
- Helps prevent mouse getting clogged with dirt
- Normal retail price £5.95

### HOW TO ORDER

Please use the **FREEPOST** form on the following page or the identical card attached to the outside of the magazine. Alternatively dial 0458 740111 with your credit card details.



## SPACE HARRIER

### Info

The conversion of the Taito coin-up game has won a Format Gold award.

| Version | RSP   | Box price | Order code |
|---------|-------|-----------|------------|
| Amiga2  | £1.99 | £4.99     | FO00497    |

## OIDS

### FTL Information

Now incorporated by the clang on our cover disk, now by the red thing, complete with two players each with up to 10 planets, a game-long restriction.

| Version | RSP   | Box price | Order code |
|---------|-------|-----------|------------|
| Amiga2  | £1.99 | £4.99     | FO04807    |

## ROLLING THUNDER

### Info

Impressive recreation of the Atari 2600 title as featuring an additional big explosion and air-action.

| Version | RSP   | Box price | Order code |
|---------|-------|-----------|------------|
| Amiga 2 | £1.99 | £4.99     | FO04807    |
| Amiga   | £1.99 | £4.99     | FO04807    |

## CARRIER COMMAND

### Info

Takes command of the world's most advanced ship, this award-winning game featuring incredible 3D line graphics.

| Version | RSP   | Box price | Order code |
|---------|-------|-----------|------------|
| Amiga 2 | £1.99 | £4.99     | FO00497    |
| Amiga   | £1.99 | £4.99     | FO00497    |

## VIRUS

### Info

The 3D version of the game which first appeared as Zaxxon 24. The Amiga version is even better than the original Format Gold.

| Version | RSP   | Box price | Order code |
|---------|-------|-----------|------------|
| Amiga 2 | £1.99 | £4.99     | FO00497    |

## LEADERBOARD

### FTL Information

The going simulation per week for 10 weeks, displayed in great detail, superb graphics, long-term challenge.

| Version | RSP   | Box price | Order code |
|---------|-------|-----------|------------|
| Amiga 2 | £1.99 | £4.99     | FO00497    |
| Amiga   | £1.99 | £4.99     | FO00497    |

## DUNGEON MASTER

### FTL Information

Enter the fabulous world of dungeons at your peril in this incredible role-playing adventure. Automating 3D graphics, incredibly detailed graphics.

| Version | RSP   | Box price | Order code |
|---------|-------|-----------|------------|
| Amiga 2 | £1.99 | £4.99     | FO00497    |

## GAUNTLET 2

### Info

Follow us to the arcade classic - the new dungeons and monsters that are.

| Version | RSP   | Box price | Order code |
|---------|-------|-----------|------------|
| Amiga 2 | £1.99 | £4.99     | FO00497    |

## OUTRUN

### Info

Enter one of the most successful arcade racing games.

| Version | RSP   | Box price | Order code |
|---------|-------|-----------|------------|
| Amiga 2 | £1.99 | £4.99     | FO00497    |

## WHIRLYGIG

### Info

3D light source and two levels, complete with 3D line graphics.

| Version | RSP   | Box price | Order code |
|---------|-------|-----------|------------|
| Amiga 2 | £1.99 | £4.99     | FO00497    |
| Amiga   | £1.99 | £4.99     | FO00497    |

## JINKS

### Info

Enter the world's most successful arcade game with 3D line graphics.

| Version | RSP   | Box price | Order code |
|---------|-------|-----------|------------|
| Amiga   | £1.99 | £4.99     | FO00497    |

## S.T.A.C.

### Info

The ST Adventure Center is a comprehensive guide to software, featuring 3D line graphics, complete with 3D line graphics.

| Version | RSP   | Box price | Order code |
|---------|-------|-----------|------------|
| Amiga 2 | £1.99 | £4.99     | FO00497    |

## INTERCEPTOR

### Info

Enter the world's most successful arcade game with 3D line graphics.

| Version | RSP   | Box price | Order code |
|---------|-------|-----------|------------|
| Amiga   | £1.99 | £4.99     | FO00497    |

## EPYX ON ST

### Info

Enter the world's most successful arcade game with 3D line graphics.

| Version | RSP   | Box price | Order code |
|---------|-------|-----------|------------|
| Amiga 2 | £1.99 | £4.99     | FO00497    |

## FERRARI FORMULA 1

### Info

Enter the world's most successful arcade game with 3D line graphics.

| Version | RSP   | Box price | Order code |
|---------|-------|-----------|------------|
| Amiga   | £1.99 | £4.99     | FO00497    |

## BIONIC COMMANDO

### Info

Enter the world's most successful arcade game with 3D line graphics.

| Version | RSP   | Box price | Order code |
|---------|-------|-----------|------------|
| Amiga 2 | £1.99 | £4.99     | FO00497    |

## FIRE AND FORGET

### Info

Enter the world's most successful arcade game with 3D line graphics.

| Version | RSP   | Box price | Order code |
|---------|-------|-----------|------------|
| Amiga   | £1.99 | £4.99     | FO00497    |





# STAMIGA FORMAT

## READER OFFERS

Fantastic  
savings on  
some of the  
hottest 16-bit  
software  
around!

Fast delivery • Friendly service • Fabulous discounts

### HOW TO ORDER

Just make a note of the details of the items you want, including the order code. Then fill these in on the free-post form printed on this page, or use the identical perforated card attached to the back of the magazine.

Post this, together with your credit card details or cheque to the Free Post address listed - you need pay no postage.

Alternatively ring 0458 74011 and ask for Formal Credit Card Orders.

### PLEASE NOTE

1. All items are despatched by first class mail.
2. All prices include VAT, postage and packing.
3. You will normally receive software within 7 days of ordering.

**CREDIT CARD HOTLINE**  
0458 74011



## ORDER FORM

Please tick the following items from the ST Amiga-Format special offer pages.

| Order code | Title | Price |
|------------|-------|-------|
| 1          |       |       |
| 2          |       |       |
| 3          |       |       |
| 4          |       |       |
| 5          |       |       |

Total Software Order

£

☐ Send me form to  
FORMAT (other  
FREEPOST  
subscription  
form not valid)

### SUBSCRIPTION ORDERS

☐ Tick here for a 12 issue subscription to ST Amiga.  
Renewal costing £29.95. This entitles you to a FREE dis-  
count + return post.

Subscriber's total payable  
(check £29.95)

£

Name

Address

Phone (if please)

Computer

Method of payment

☐ ADD CARD ☐ VISA ☐ CHEQUE ☐ C/P

Great card no

Exp date

Please make out cheques and postal orders to Future Publishing Ltd

This form is valid until October 1995 1995





# GOLD DUST

**Score Gold taps the bulletin board wires under the Atlantic and finds American ST users not at all happy with Atari, and plans of an Abaq-basher from Commodore.**

**A**fter intense lobbying from distributors in the US for licensing local marketing divisions to obtain local distributors in future, all company requested direct sales representatives.

The effect of the campaign has meant that many dealers are now staying away from handling the ST until they have reason to turn to others than Atari, where it comes to technical assistance from customers.

Even if you're a technically-aware user of the ST in the US, you can still fit problems with the current ST hardware in line with Commodore's 486 lines. For your money you get 1,000 photocopies of the 486/500 manual of which is available from other sources.

In addition to this line is banking on full copy of C Programming by Mark Williams, and five-disk of programming with it. Most of the others features are now available from other pro-

viders. One is, using only from Atari 100 management. Maybe that's not such a bad thing.

## Press for action

ST Support, a monthly magazine, is online newspaper for the Atari community which is available for change to subscribers of the Commodore and Atari online systems in the US. Commodore costs a few dollars to get and you get - and the end of the year - a year's subscription for a subscription fee.

To access Gold from the US, you need a ST Master System System account using an MAF, through your address of 4801 3000.

Once connected to Gold, the 400M prompt line is C:\ST\17171717 and you will be asked for some personal details and a valid credit card number.

Gold is closed to use input from 1985 costs of a call call to the US and may be an issue for ST users called the Atari ST Board Issue.

The Board Issue has three main issues: a bulletin board, software library and the real time software user. For UK users, the software library is the most interesting, since it contains the latest public domain and shareware products available in the US - usually name ready, it not months ahead of what they find this way into the UK user.

## Out of the dungeon

On a more topical level, the paper also has the list of writing that Atari is now using from users in the 486/500 line. This, which includes the availability and longevity of the direct of the ST. Good news.

Meanwhile, if adventure is your game, The Dungeons Master by P.T. New has a solution book available. The Dungeons Master

Guide is produced by Computer Adventure at 30-39 Laurel 34-000 and is receiving over 1000 in the US.

If you're into the Dungeons Master, then send a cheque or money order for \$4.95 (including international postage) to: Commodore America, Inc., 100-1001 Lakeside, CA 94036, United States. If you can get your order in promptly, then you'll get a free parchment paper (not at all).

On the ST hardware front, plans are now being set for the new version of 100. By the time you read this, the 100M chip (not) will be available from Atari US at around the \$100 mark. Expect the package from Atari UK before the end of the year.

Finally this month, there's a spot of good news on the horizon for those ST users who have been thinking of upgrading to a 58600 or even 68000-based ST. Atari UK are in an online adventure driving August. Atari UK are in a semi-official with Atari Canada revealed that Atari is considering offering a 58600-based status upgrade for 58600-based ST users. More details as I hear them.

## Parallel Amigas

One of Commodore's mainstay and the word is that Commodore is adding a 32-bit based system to 1985 status. Details are still sketchy, but the machine is expected to have a strong similarity to the Amiga 486.

How close to the Amiga? Commodore is not in the same operating system. But's how close, made word is that Commodore is expecting to use Atari's or to Commodore systems the idea is that Atari will license to Commodore what 68000 is to the PC, except that Atari's better to consider.

Not that Atari will be the only 32-bit system available for the

Commodore 32-bit system. Commodore 32-bit will not reportedly be working on porting a time-based system to the machine.

If you're into a plan with Amiga, however, and want to use some database applications on your machine, then look up to a workstation product called Modulo. Modulo runs from Software House, of 28 Forest Road, Haverhill, MA 01781. Tel: 0103-617-075-1238.

My advice here will read that the 32-bit (probably as low as 100) by the time I appear at the end of this year and is expected to be the last database package around for the Amiga. The package is almost ready to go and is a bit more easy to use.

If I appear, as from the US, on-line Amiga will be going but the thing is, the upgrade has been out of the window 100 per cent. The package could be well worth waiting for.

And finally there's talk of news on the expanded baby Amiga. My advice here is that the expected to be a 1000 version of the 486 (the 486/500) available by late October. But the 486 chip price are falling. Commodore is said to be at Atari's



■ Atari UK's top executive - doing a better job than his 486 competitors.

in domain, then with software services. As Atari UK's new managing editor of ST Player in the US said "I'll try for a time 500" note.

UK users should consider immediately looking that they have the best of both worlds (Atari UK's managing division) from to deal with Commodore's or Atari's in the industry, with Commodore's more open. If the trends in the US are anything to go by, Atari UK



■ The 32-bit system chip - at the heart of Commodore's next in the Amiga.

there will keep an eye out for reports from Commodore that they're - 14/15 November. You could see some details from Commodore at last - further details is not much to say.

**YOU NAME IT — WE HAVE IT.**



# FORMAT LETTERS

In which the Format team pit their wits against bulging mailbags of questions, comments, brickbats and bouquets. Why not add your voice to the cohorts of Format Letters, 57 Amiga Format, 4 Queen Street, Bath BA1 1EQ.

## In the FPiGture

I am an Amiga 500 owner. Could you pass the answers to my queries, as I'm about to swap.

I'm stuck on the FPG program from disk 3. I've put it over in the RAM disk, transferred it on to a formatted disk, then loaded the disk again, but the FPG won't run. I've tried it successfully. OK, so far, but to the next bit, I can't load a picture into FPG.

The loaded Deluxe Paint to now I've got EP and FPG, and it should be as simple as selecting text on FPG, copy to EP and key control (but no Amiga mouse FPG is in, always again, but, to load a new bit of colour, only FPG is, so this disk, then I need output box on the FPG disk, but I don't seem able to get a lines drawn on a disk. For some time I have been using the LORIS driver, but the it is too big for the RAM disk. Please forgive the atrocious description. I'm going insane. I never should have bought a Spectrum.

How far a couple of other owners. How do you get into RAM mode machine etc. without using a paint program? How was the Spectrum got control? I loaded it into Deluxe Paint, only to see that it was made up of millions of randomly coloured dots.

P. Tomlin

Marine, Shildon.

■ For most showing a common problem we doctors call 'The Amiga's lying system'. Here is the best way to make FPG load a picture from a disk other than its own program disk, assuming you only have one drive. It tells another picture saved your low resolution picture in a database called 128000, it doesn't matter what data you put in, but this FPG (don't have SMART moving at the same time or you may run out of memory) and go to the Load screen, but Put the disk side the

spindle, then the picture will come in. Or even better if the picture you want is on another picture, you will get a directory of the new disk and then you can click on the LORIS driver and select your file off the menu is normal.

Now to the real bit. The Amiga compares its screen to the control for any picture you display so you should be normal to many other modes. The programmer's tool has an absolute mode which, if you're programming in AmigaBASIC, you can copy a window in any resolution (except RAM mode) with the screen command, and the screen bit. The Spectrum picture is a public domain RAM mode picture which was displayed using Deluxe Paint. Paint can't edit RAM mode pictures - you might try Deluxe Paint editor.

## A funny game

Thanks for the magazine, at last someone understands that both machines are better! Can you print an eight page hi resolution version, as I have always thought that a twelve was in a game of hideouts.

Can you use a Commodore 2844 monitor with an 800K and if so will it display at three graphic modes at the time?

Tom David

LADNETH, WYPO

■ You will no doubt be anxious to know that your letter was added and replied to using an ST1040 running through a Commodore 1284 monitor so it certainly is possible. Please get in to get a special lead though - the Amiga monitor uses a 'Quadrant' plug. Any good computer store should be able to supply one. The monitor acts as a normal ST low-resolution resolution monitor so you can't display more than 640 pixels.

play more mode screens. Get hold of issue 3, from our Bank Numbers department, say the Special Offer, please for a 99 pence.

## Blank horror

I am writing this letter to fairly computers about the first issue of the disk. I have just received it to the related department. I have the disk totally unworkable as I don't think there was anything at all written on it. I hope no more copies have got the same as this. I may change my current subscription with you.

I must also say that the disk, I am returning, is not for the use you sent me but use of which I bought is a cheap. I purchased it because the copy you sent me was damaged by the postman as he sent the envelope to get it through our letter box. It was clearly written on the envelope 'Please do not send, but for the disk'. I also typed the picture (frustrated) I therefore went to the Post Office and put it in a competition form to the value of the magazine and disk.

So I've been spent over £7 and I still do not get back a working copy of the disk and two more money exactly the same. I hope no other readers have had the same difficulty as I have had. I also do not know when I will get my money back or if I will get it back at all. It also do not know when I will get the disk back from your editors concerned.

Also I must say that the disks are not 100% (Quality Guaranteed) as sometimes I have to take the disk out of the drive and reinsert it into my Amiga a number of times before I can access the programs from the floppydisk. This is spent with daily by copying the disk. I have managed to get the first two

issues of the disk but to use disk is this concept of it to spare. Please email me a short reply.

To avoid the problem of availability who don't you put 57 programs on the disk one month and 50 programs on the disk next month? There is also another solution why don't you put two disks on the first to split the magazine into two different magazines?

I must not forget too much to see you might not publish this letter. I am happy you magazine and I mostly agree the same moves the magazine monthly, but 100% of all the programming has written.

David Brown

Southampton

■ Judging by the feedback we're getting, there seem to be more problems on the Amiga than the ST, so far as making our special format disks goes. Using DISKACTION as described in issue 3 is an often help. Our description, OnCopy file, tell us they try to handle replacements by means of just but particularly with the current postal strikes going on (Please be patient - it's worth the wait).

## RAMming speed

I bought your magazine issue 3 as I am having to buy it to get the best future and found it very interesting.

I read your Workbench section and have a question. You suggest copying a number of CU commands to RAM to make life easier for a single bit of memory, and in your example put a (FMT) RAM: ROC command at the end. I try to copy everything, but I don't know how the machine reacts but doesn't it spend time to copy (COPY to RAM) is it then put the RAM command. Then copy out the other copy command?



Surely this would mean less disk activity since the COPY command would then be issued up front (RAM) for subsequent use as the startup sequence?

**J. Hym  
Kelley Grove**

■ You're absolutely right, it would be even better though to use the multiple copy facility and do all copying from one command line. Just put a 1 between the

**COPY** CONVEYERTRACE  
TO: A&M

### Those viruses

I own a S&W286 and am glad to purchase an ASMD to scan it. In issue 2 I was reading "Word Test" and I was shocked to find out there are viruses going about on the ST. I know nothing about any of these or what is involved. I only use computers for games, writing etc. Do the viruses affect games disks? Will the viruses work the future of the 16-bit computer? How do you turn the virus? Will the viruses ever disappear for good?

Please please please could you answer my questions and send me further information about the viruses that might get some very simple things. As I said I only use computers for games to please don't confuse me with computer jargon and words I've never heard of. I would be grateful for any details on

**A. McMillan  
Northfield, Aberdeen**

■ Well viruses are a pretty big topic. In brief, viruses are programs that hide on disks, spread themselves to other disks, and eventually make disks on their disks. They hide themselves, have disks "go around" in memory and through other disks put in the drive. The best way to be safe is by having your machine off - not just pressing the reset button - as often as a practical safety between every disk change! This remains my words for memory.

Viruses don't really threaten the future of computing. There are several good anti-virus around which monitor them for infected disks. We supplied Amiga and ST viruses on page 114 of this month's *Desktop* papers. We cover protections for the ST in more detail.

### Demo copying

Would you please give the advice on making a backup copy of ST Amiga Format cover disk no. 2. I

just managed to move everything except for Starflye disks. The other files I transferred by dragging them into a copy of Amiga Workbench. I have not been able to use the CLI to transfer Starflye disks, making numerous attempts.

Would you please send me detailed instructions on how to make this transfer in if this is not possible (perhaps you would post an instruction in a future edition of the magazine).

On Sat Taylor last Intel Fax came on American keyboard Amiga/ST Desktops. We are starting the program at present so that I will work properly with the ST keyboard. The problem is that updated manuals are at a different date on the two keyboards. Some other keys appear in other places as well. Can it be that the keyboards are there but the program ignores them and needs the keyboard directly.

**Steve Rogers  
Spokane, Nevada**

■ To copy Starflye (1) Start your Amiga up, making the command line you will need to use the disk, open up a CG window and type:

```
COPY CONF/INSTALL.DSK
PATH: A&M AND
(2) Insert a blank disk in the
optional slot. Leave it in the drive
and make it bootable with the
INSTALL.DSK command
INSTALL DSK
(3) Put the ST Amiga format disk
in the drive and type
COPY DSK STROMA.DSK
RAM
COPY DSK & RAM & ALL
(4) Put the newly formatted disk
in the drive and type
COPY RAM STROMA.DSK
END
```

Copy RAM and DSK & ALL.

Now when you reboot with the new disk the Starflye disks will start.

Thanks for the info about keyboard.

### Dot dash it all

A plus - don't expect love of a mere code table program. Note and advised that up on the ST, but if so where can I get hold of it?

In the Contemporary GLP reader (chapter of getting the Amiga computer character set) and it is how? I would like to get in touch with other ST users and would welcome correspondence to me in order to exchange tips on the ST and probably set up a programming team.

Thanks for a great magazine

and keep up the great work.

**Ben Gannon  
London N20**

■ We don't know of a mouse program, but maybe some like ST mouse radio have not there has one? This might even transfer one for our cover disk if you send it in.

The GLP can't pay off the ST character set. Any support on screen all use the corresponding graphics, though it only prints the ST set, but that's more than enough for word processing.

### Life...

A question which life is going to be out of life? Answer: life is too short to stay in life. It is the character going to reduce the tax on petrol? Answer: when I sit up with petrol the day before budget day. Which computer magazine approved us offer to reduce price to subscribers? Answer: the one I recently received my tablet print with. How long before ST Amiga Format reaches their offer?

of a £5.95 only £12.95 disk sale and more and to reseller subscribers? Answer: probably not much as the full subscription. Well it looks you get a good one each month don't you?

**Mr P. J. Bennett  
Willingborough, Northants**

■ And Mr P. J. Bennett of Willingham you're probably the only person in the country who is pleased our cover price has gone up this month.

### Questions, questions

You may be really glad if you're the first to start. The readers are the first to start in any way get subscriptions. In Willingham, the staff you are only on the disk at least 1000 up on the pool work. The only problem I have is that you should try and lighten the letters page.

I have the following points/questions to raise:  
1. Supermarket life is a life  
2. Do you know what Capital

## MONITOR MATTERS

I would be very grateful if you could pass on information to fit to the format of the format. In issue 2 letters page asking him that it is possible to connect the Amiga to a Progress TV-VIDEO recording board. The lead is available from Image and costs £10. It gives a good-quality picture (as expected) plus good sound (more obvious). Image helps him.

**Jonathan Morris  
Chesham, Bucks**

Attention all you frustrated ST users with Progress Monitors! This is the MC range. I have an MC01 with Amiga 370 and I have never been able to get a decent picture.

My dealer gave me the best when I purchased my ST, but warned me that the picture would be very bright, sure enough it was. As you know (perhaps) when the MC01 detects the RGB signal the colour and contrast controls are disabled, and will not adjust the picture. The brightness control works, but the picture is still too bright.

I have purchased a real monitor up from a retail price line. The result was mostly in better and £114.95 worth.

After several months of operation while using the MC01, I decided to try and sort it out myself. I searched through all my old magazines and found several solutions. Most involved monitors in the R-5 and R-6 lines, and one with a double in the vertical sync line.

I tried all these with no success. I dismantled my step-height head and found three monitors in parallel with the RGB lines. No one of all an extremely large for the price of head resistance and would spare them. But put them in series. Slightly better than about more resistance?

Eventually I ended up with 1500 Ohm resistance in the R-5 and R-6 lines and one in the vertical sync. Rather than under the monitors in the plug, I made a small "bong" with a plastic adaptor line and 7 pin pin plug and a 7 pin pin socket, some hardware and about £15 of screened cable.

I now have a working monitor after 8 months of operation. I hope the fellow people out. Total cost of the parts required works out at about £1-00, at suitable time any performance time.

I actually would like to make one up for them. Will be happy to do it for £5.00 including postage.

**Chris Parker  
14 Green Lane, PB, Bristol BS20 0AQ**





directly into a specific language and then another has to be learned. As such BASIC has to be a bit of a dead place to start. Hopefully, by now, you are now about doing a parallel task in another language. The Adventure? Read any which?

#### **Commanders and The Blue And Dead Wizard Family, Book**

- Back to the old: the old love adventure.

As to your main point, while everyone is entitled to have a favourite language you are very wrong to dismiss BASIC as you say it seems you haven't programmed in BASIC for five years or so - modern versions of Microsoft's Power BASIC are as good as obsolete! In Pascal (local variables, calculated etc.) and since they have the option of being interpreted or compiled are a lot easier to learn so BASICs are usually written for a specific machine within C or Pascal and so tend to have people come round to change (even editors) generate libraries, and so on. In short, modern BASICs can be as fast, powerful and flexible.

### **Specialist games**

Through my ST I am an old flight simulator. If there are, as such, I have spent many a long hour 'flying' through the flight adventures books that are around and now there are the new Scenario disks available. I am happy to try to find at Golem or elsewhere on a floppy right with a fairly standard but after I have finished that one, what next?

How about setting up a page or so each month dedicated to a



We understand you want some rather specialist games -!

FSI Adventures (compiled either by yourselves or from people writing it). Such an adventure might omit the complexities of your language input type of variable and anything to look at as the very idea of starting an interesting scenario to accompany the flight.

As the updated FSI is possible on both the ST and IMAK what better way to make both sets of readers than through such a title as old flight adventures.

**PRO Editor**  
**London 1984**

- Answer: what an original idea.

### **Cheat modes**

I used your 'cheat' books supplied in issue 1 for 'Gauntlet' and 'Maharajah' to help my son (7 years old) to last a bit longer in the games. However, I would like to know the cheat book to the original settings and wonder if it is possible to obtain codes to do this.

**David Price**  
**Amfield Kent**

- With codes that modify the game disk, there is no way you can avoid the games in three ways. You should help out the player on copies of the master disk, or when you are sent you are not the game.

Of course, the problem is that very few games can be copied. My friend told me that a disk copy called ProCopy by 'The Missing Finger Company' (0783 22904) helps. This is a disk copy that can copy some protected game disks and so allow you to back-up copies of your software.

### **Video quest**

I own an Amiga 500 and a Commodore A1400 monitor. I was wondering if you could let me know to connect the computer to a video video recorder to record games. I can't see the Supercommodore (SCART) port.

**James Talbot**  
**Stange Lymington, Hants**

- Forget your 16bit monitor your best route is to buy a VCR monitor for the Amiga then connect this back into your video recorder's serial input socket.

### **ST disk drives**

Referring to the question of Mr. Hendrick (Issue 25) on upgrading old VCR tape recorders to 1 Meg units.

When buying my ST apart I found that the disk drive made the unit was made by (Shugart) Japan. They drive fast (and fast)

to the rear of it which, as far as I can tell, is some sort of drive controller (because if the ST acted as if no drive was present). The problem is that this makes the drive about 1" larger than the Commodore 3" when swapped. I had bought the external Commodore 1 Meg drive but after a few problems with the internal drive and waiting for the double sided drive I decided to do a swap.

You will need 4 screws about 2 1/2" long and 4 screws about 2 1/2" to hold the new drive in place. The last holes in the Commodore disk were drilled to the ST's own offset so no alteration was needed there. I suspect that this may be true for many of these drives. The electrical connections are also correct.

The only thing that needed altering was the ST coping at the point to set the disk open then out. A little careful work with the Stanley knife and it looks good. I did not attempt to remove or replace the seal mechanism since the ST's own seemed to be well embedded in the drive.

Make sure that the screws fit the drive holes of the new disk drive straight before removing them.

I also had to remove the power supply from the Commodore since the ST's internal drive would not fit in the case while it was there. Two new side holes had to be drilled in the case for the side screws of the ST's drive. This may have changed if they have changed the drive in the ST. I would not recommend removing either seal mechanism since both were extremely different and this would mean taking both disk drives completely apart.

Remember that no matter how little work you do make the case you have completely destroyed your guarantee.

I hope it had some of the ideas that are of use to your other readers.

**Keith Magenta**  
**Gloucester**

- Thanks for the benefit of your experience. The haven't looked this method out and can help repeat your performance pure profit again - remember if you try this upgrade you are destroying your guarantee.

### **Load of TOS**

Heaving all the trash about the new ST TOS. I was wondering what the difference/advantages are over the old one and whether it is possible to sign up? It seems the sales magazines had more

likely good than the old and out of date things as I they didn't wait. I expect that there are many more people with machines of the age of now in place than there are with Commodore Pack.

**Nick Hamilton**  
**Bromley Essex**

- It depends what you mean by the new TOS ROMs. Indeed STs - Summer Hack ones and Mega - have a new set of ROMs which is essentially a lightened version of the old ones. (Since you are a machine code programmer you wouldn't notice the difference and it isn't worth upgrading.)

There is supposed to be a complete new version of TOS under development which does sound good though. Among new offerings will be a disk format more compatible with the PCs (hardly revolutionary) and file copying without so many disk swaps. Not much to cheer in yet.

### **Guitar bands**

Did you know that the kind of the unbranded symbols is used by makers to make a musical instrument resembling a 'practical guitar'? Also the young of one later are shaped identical ones.

**Stephen Wynn**  
**Tramton, Somerset**

■ The format researchers at the National History Museum have also uncovered the fact that the Amstrad is a descendant of the prehistoric 'ligature' which had a body that three inches long.

### **Specy-lation**

Could we have optimism on writing for GEM that sort of thing? It was like this in the early days of the Spectrum (yes, I owned a Commodore when magazines were prepared to release before they all became a mass sale).

If a good idea, entering to both ST and Amiga and having a disk that works on either. This may be the best way of shipping the latest ST/Amiga programs. Maybe I own an ST but I read the Amiga bits, simply because I'm interested.

**Andrew Pearce**  
**Hambleton, Essex**

- The majority of people buy their machines for games or applications, not programming. But would like to know more about how their computer works if it is presented simply in a covering GEM and general programming. But we won't turn any old-fashioned 'before mag'.



156 STATION ROAD, CRADLEY HEATH,  
WALLEY, WEST MIDLANDS, B64 7YT



### Katakis. Bliss you

US Gold's latest Action magazine, *Katakis*, has taken a lot of industry mighting — it seems to have been well and truly stopped on by the salesmen of Actionizer (sorry, *Mad Magazine*) who do they change their name? it being too similar to their own? I hope they've got together a bold and fast reaction which bolts and bolts so though it's going to

dark. Like God have created and with me their own program.

This kind of looking is not unusual in the first moving world of international reputation built by known as the game software industry US Gold themselves are currently taking action against this claiming that their look-alike changes their *Katakis* design.

It seems to have created most trouble for companies though fellow publishers themselves will now have to withdraw the Cat console cover (because of Katakis) that they have already printed and mounted on the October issue of their game monthly *Joyp*. US Gold Publishers also built a double-page review and comparison spread Katakis for the launch issue of their new Computer Games *Week*. Look! take the point, if you believed could be something of a *Katakis* item.

### Cover Price

It's a long time — you will probably have noticed the increase of *Format's* cover price. Unfortunately the 15¢ ask most age has barely caught up with its cost, at a 25% increase in the cost of blank disks and new digital video hardware, now at £2.95, we hope you'll all appreciate what good value *Format* is. Our own competitors are around the £2 mark, but don't supply a cover disk with over 4000 of programs each each month fixed at £2 software means you don't get a disk for £1.



### Little Darlings

*Little Darling* has played some of the power that have appeared out of Code Masters' (though there are previous has said able for the US hit machine) 'You're lucky. You only have the games to control me'.

Code Masters' the software house put together by the British Daring team, is the only of most of the end of this family and available imagine superior. There's *Little Darling* is a 2000, as this being men, women, kids to produce an ally photo of some members of the Daring enterprise each month with a pretty picture and some machine long suffering back to back on computers.

We leave you to judge the effectiveness of this policy for your values (there are the last three month's offerings) as it has much to focus that some Saturday Paper. You will fly away with the *Little Darling*.



For a limited period you can still get round the price increase by subscribing to *Format*. The cost for a full 12 months starting at

£29.95 and will entitle you to a free disk, tape and cassette test. Subscribe now. It's even more worthwhile.

## STAMICA

Issue 5 of ST  
Amiga Format  
hits the streets  
on Thursday  
20th October  
— pick one up  
before some-  
one trades  
on it.

## Superheroes, Inc.

by Barker



## The games they said couldn't be written

**QUADRALINI**[illegible]

You are entering, hopefully, your second decade. As the first cybernetic nuclear-laser complex, they obtained mid-21st Century Goettingen storage has happened three. As the first world, the control mechanisms would respond, the first-century young. Meltdown is right. But it's worse than that. Since the very heart of the race, the shell, the number QUADRILION, hence, they established their foothold in our society. You have put its shell to rest in our QUADRILION in ACTION. STRATEGY. Strategy. Strategy.

ST. AUGUSTINE, FLORIDA  
 32080-1000

## STAR GOOSE!



Downloaded At: 11:53 11 September 2009

What happens when a team that's mired on top for 14-15th makes one decision to build the classic theme of the external world and then? The result is StarCraft, the latest from Blizzard and G2 (formerly Blizzard), and here is it seems. Until you've tackled the mind-boggling variety of defense forces in the 3-D world of Moons, you're still in the night City. StarCraft ingredients include: The brilliant art of FULL screen, with all. Variable speed. Unique unit layouts. Unique supply systems and the best.

2017-2018

## Summary



**Table 1**

We won't mention the super-massive parasites swirling the straining backdrops, the screaming face graphics, the never heard before sounds the gameplay that turns humans into jelly the theme that just get under the surface Last Game Option. We'll just say:

Quite possibly the best arcade action yet written for any machine.  
Average 2 disks + Audio  
Cassette (£24.95)  
SE £29.95  
C64 (Disk + Audio)  
Cassette (£18.95)  
PC £24.95

MASTERWORKS FOR THE MILLENNIUM

Form 1040-ES  
2004 Estimated Tax

Estimated Tax

Estimated Tax Payments

Estimated Tax Refund



Why not place our Credit Card  
Holdings for prompt delivery  
08/11/10 7:00PM



## LOCOTRON RECREATION

**Table 1**

1998, 1999, 2000, 2001, 2002, 2003, 2004, 2005, 2006, 2007, 2008, 2009, 2010, 2011, 2012, 2013, 2014, 2015, 2016, 2017, 2018, 2019, 2020, 2021, 2022, 2023, 2024, 2025, 2026, 2027, 2028, 2029, 2030, 2031, 2032, 2033, 2034, 2035, 2036, 2037, 2038, 2039, 2040, 2041, 2042, 2043, 2044, 2045, 2046, 2047, 2048, 2049, 2050, 2051, 2052, 2053, 2054, 2055, 2056, 2057, 2058, 2059, 2060, 2061, 2062, 2063, 2064, 2065, 2066, 2067, 2068, 2069, 2070, 2071, 2072, 2073, 2074, 2075, 2076, 2077, 2078, 2079, 2080, 2081, 2082, 2083, 2084, 2085, 2086, 2087, 2088, 2089, 2090, 2091, 2092, 2093, 2094, 2095, 2096, 2097, 2098, 2099, 2100, 2101, 2102, 2103, 2104, 2105, 2106, 2107, 2108, 2109, 2110, 2111, 2112, 2113, 2114, 2115, 2116, 2117, 2118, 2119, 2120, 2121, 2122, 2123, 2124, 2125, 2126, 2127, 2128, 2129, 2130, 2131, 2132, 2133, 2134, 2135, 2136, 2137, 2138, 2139, 2140, 2141, 2142, 2143, 2144, 2145, 2146, 2147, 2148, 2149, 2150, 2151, 2152, 2153, 2154, 2155, 2156, 2157, 2158, 2159, 2160, 2161, 2162, 2163, 2164, 2165, 2166, 2167, 2168, 2169, 2170, 2171, 2172, 2173, 2174, 2175, 2176, 2177, 2178, 2179, 2180, 2181, 2182, 2183, 2184, 2185, 2186, 2187, 2188, 2189, 2190, 2191, 2192, 2193, 2194, 2195, 2196, 2197, 2198, 2199, 2200, 2201, 2202, 2203, 2204, 2205, 2206, 2207, 2208, 2209, 2210, 2211, 2212, 2213, 2214, 2215, 2216, 2217, 2218, 2219, 2220, 2221, 2222, 2223, 2224, 2225, 2226, 2227, 2228, 2229, 2230, 2231, 2232, 2233, 2234, 2235, 2236, 2237, 2238, 2239, 2240, 2241, 2242, 2243, 2244, 2245, 2246, 2247, 2248, 2249, 2250, 2251, 2252, 2253, 2254, 2255, 2256, 2257, 2258, 2259, 2260, 2261, 2262, 2263, 2264, 2265, 2266, 2267, 2268, 2269, 2270, 2271, 2272, 2273, 2274, 2275, 2276, 2277, 2278, 2279, 2280, 2281, 2282, 2283, 2284, 2285, 2286, 2287, 2288, 2289, 2290, 2291, 2292, 2293, 2294, 2295, 2296, 2297, 2298, 2299, 2300, 2301, 2302, 2303, 2304, 2305, 2306, 2307, 2308, 2309, 2310, 2311, 2312, 2313, 2314, 2315, 2316, 2317, 2318, 2319, 2320, 2321, 2322, 2323, 2324, 2325, 2326, 2327, 2328, 2329, 2330, 2331, 2332, 2333, 2334, 2335, 2336, 2337, 2338, 2339, 2340, 2341, 2342, 2343, 2344, 2345, 2346, 2347, 2348, 2349, 2350, 2351, 2352, 2353, 2354, 2355, 2356, 2357, 2358, 2359, 2360, 2361, 2362, 2363, 2364, 2365, 2366, 2367, 2368, 2369, 2370, 2371, 2372, 2373, 2374, 2375, 2376, 2377, 2378, 2379, 2380, 2381, 2382, 2383, 2384, 2385, 2386, 2387, 2388, 2389, 2390, 2391, 2392, 2393, 2394, 2395, 2396, 2397, 2398, 2399, 2400, 2401, 2402, 2403, 2404, 2405, 2406, 2407, 2408, 2409, 2410, 2411, 2412, 2413, 2414, 2415, 2416, 2417, 2418, 2419, 2420, 2421, 2422, 2423, 2424, 2425, 2426, 2427, 2428, 2429, 2430, 2431, 2432, 2433, 2434, 2435, 2436, 2437, 2438, 2439, 2440, 2441, 2442, 2443, 2444, 2445, 2446, 2447, 2448, 2449, 2450, 2451, 2452, 2453, 2454, 2455, 2456, 2457, 2458, 2459, 2460, 2461, 2462, 2463, 2464, 2465, 2466, 2467, 2468, 2469, 2470, 2471, 2472, 2473, 2474, 2475, 2476, 2477, 2478, 2479, 2480, 2481, 2482, 2483, 2484, 2485, 2486, 2487, 2488, 2489, 2490, 2491, 2492, 2493, 2494, 2495, 2496, 2497, 2498, 2499, 2500, 2501, 2502, 2503, 2504, 2505, 2506, 2507, 2508, 2509, 2510, 2511, 2512, 2513, 2514, 2515, 2516, 2517, 2518, 2519, 2520, 2521, 2522, 2523, 2524, 2525, 2526, 2527, 2528, 2529, 2530, 2531, 2532, 2533, 2534, 2535, 2536, 2537, 2538, 2539, 2540, 2541, 2542, 2543, 2544, 2545, 2546, 2547, 2548, 2549, 2550, 2551, 2552, 2553, 2554, 2555, 2556, 2557, 2558, 2559, 2560, 2561, 2562, 2563, 2564, 2565, 2566, 2567, 2568, 2569, 2570, 2571, 2572, 2573, 2574, 2575, 2576, 2577, 2578, 2579, 2580, 2581, 2582, 2583, 2584, 2585, 2586, 2587, 2588, 2589, 2590, 2591, 2592, 2593, 2594, 2595, 2596, 2597, 2598, 2599, 2600, 2601, 2602, 2603, 2604, 2605, 2606, 2607, 2608, 2609, 2610, 2611, 2612, 2613, 2614, 2615, 2616, 2617, 2618, 2619, 2620, 2621, 2622, 2623, 2624, 2625, 2626, 2627, 2628, 2629, 2630, 2631, 2632, 2633, 2634, 2635, 2636, 2637, 2638, 2639, 2640, 2641, 2642, 2643, 2644, 2645, 2646, 2647, 2648, 2649, 2650, 2651, 2652, 2653, 2654, 2655, 2656, 2657, 2658, 2659, 2660, 2661, 2662, 2663, 2664, 2665, 2666, 2667, 2668, 2669, 2670, 2671, 2672, 2673, 2674, 2675, 2676, 2677, 2678, 2679, 26

1998, 1999, 2000, 2001, 2002, 2003, 2004, 2005, 2006, 2007, 2008, 2009, 2010, 2011, 2012, 2013, 2014, 2015, 2016, 2017, 2018, 2019, 2020, 2021, 2022, 2023, 2024, 2025, 2026, 2027, 2028, 2029, 2030, 2031, 2032, 2033, 2034, 2035, 2036, 2037, 2038, 2039, 2040, 2041, 2042, 2043, 2044, 2045, 2046, 2047, 2048, 2049, 2050, 2051, 2052, 2053, 2054, 2055, 2056, 2057, 2058, 2059, 2060, 2061, 2062, 2063, 2064, 2065, 2066, 2067, 2068, 2069, 2070, 2071, 2072, 2073, 2074, 2075, 2076, 2077, 2078, 2079, 2080, 2081, 2082, 2083, 2084, 2085, 2086, 2087, 2088, 2089, 2090, 2091, 2092, 2093, 2094, 2095, 2096, 2097, 2098, 2099, 2100, 2101, 2102, 2103, 2104, 2105, 2106, 2107, 2108, 2109, 2110, 2111, 2112, 2113, 2114, 2115, 2116, 2117, 2118, 2119, 2120, 2121, 2122, 2123, 2124, 2125, 2126, 2127, 2128, 2129, 2130, 2131, 2132, 2133, 2134, 2135, 2136, 2137, 2138, 2139, 2140, 2141, 2142, 2143, 2144, 2145, 2146, 2147, 2148, 2149, 2150, 2151, 2152, 2153, 2154, 2155, 2156, 2157, 2158, 2159, 2160, 2161, 2162, 2163, 2164, 2165, 2166, 2167, 2168, 2169, 2170, 2171, 2172, 2173, 2174, 2175, 2176, 2177, 2178, 2179, 2180, 2181, 2182, 2183, 2184, 2185, 2186, 2187, 2188, 2189, 2190, 2191, 2192, 2193, 2194, 2195, 2196, 2197, 2198, 2199, 2200, 2201, 2202, 2203, 2204, 2205, 2206, 2207, 2208, 2209, 2210, 2211, 2212, 2213, 2214, 2215, 2216, 2217, 2218, 2219, 2220, 2221, 2222, 2223, 2224, 2225, 2226, 2227, 2228, 2229, 2230, 2231, 2232, 2233, 2234, 2235, 2236, 2237, 2238, 2239, 2240, 2241, 2242, 2243, 2244, 2245, 2246, 2247, 2248, 2249, 2250, 2251, 2252, 2253, 2254, 2255, 2256, 2257, 2258, 2259, 2260, 2261, 2262, 2263, 2264, 2265, 2266, 2267, 2268, 2269, 2270, 2271, 2272, 2273, 2274, 2275, 2276, 2277, 2278, 2279, 2280, 2281, 2282, 2283, 2284, 2285, 2286, 2287, 2288, 2289, 2290, 2291, 2292, 2293, 2294, 2295, 2296, 2297, 2298, 2299, 2300, 2301, 2302, 2303, 2304, 2305, 2306, 2307, 2308, 2309, 2310, 2311, 2312, 2313, 2314, 2315, 2316, 2317, 2318, 2319, 2320, 2321, 2322, 2323, 2324, 2325, 2326, 2327, 2328, 2329, 2330, 2331, 2332, 2333, 2334, 2335, 2336, 2337, 2338, 2339, 2340, 2341, 2342, 2343, 2344, 2345, 2346, 2347, 2348, 2349, 2350, 2351, 2352, 2353, 2354, 2355, 2356, 2357, 2358, 2359, 2360, 2361, 2362, 2363, 2364, 2365, 2366, 2367, 2368, 2369, 2370, 2371, 2372, 2373, 2374, 2375, 2376, 2377, 2378, 2379, 2380, 2381, 2382, 2383, 2384, 2385, 2386, 2387, 2388, 2389, 2390, 2391, 2392, 2393, 2394, 2395, 2396, 2397, 2398, 2399, 2400, 2401, 2402, 2403, 2404, 2405, 2406, 2407, 2408, 2409, 2410, 2411, 2412, 2413, 2414, 2415, 2416, 2417, 2418, 2419, 2420, 2421, 2422, 2423, 2424, 2425, 2426, 2427, 2428, 2429, 2430, 2431, 2432, 2433, 2434, 2435, 2436, 2437, 2438, 2439, 2440, 2441, 2442, 2443, 2444, 2445, 2446, 2447, 2448, 2449, 2450, 2451, 2452, 2453, 2454, 2455, 2456, 2457, 2458, 2459, 2460, 2461, 2462, 2463, 2464, 2465, 2466, 2467, 2468, 2469, 2470, 2471, 2472, 2473, 2474, 2475, 2476, 2477, 2478, 2479, 2480, 2481, 2482, 2483, 2484, 2485, 2486, 2487, 2488, 2489, 2490, 2491, 2492, 2493, 2494, 2495, 2496, 2497, 2498, 2499, 2500, 2501, 2502, 2503, 2504, 2505, 2506, 2507, 2508, 2509, 2510, 2511, 2512, 2513, 2514, 2515, 2516, 2517, 2518, 2519, 2520, 2521, 2522, 2523, 2524, 2525, 2526, 2527, 2528, 2529, 2530, 2531, 2532, 2533, 2534, 2535, 2536, 2537, 2538, 2539, 2540, 2541, 2542, 2543, 2544, 2545, 2546, 2547, 2548, 2549, 2550, 2551, 2552, 2553, 2554, 2555, 2556, 2557, 2558, 2559, 2560, 2561, 2562, 2563, 2564, 2565, 2566, 2567, 2568, 2569, 2570, 2571, 2572, 2573, 2574, 2575, 2576, 2577, 2578, 2579, 2580, 2581, 2582, 2583, 2584, 2585, 2586, 2587, 2588, 2589, 2590, 2591, 2592, 2593, 2594, 2595, 2596, 2597, 2598, 2599, 2600, 2601, 2602, 2603, 2604, 2605, 2606, 2607, 2608, 2609, 2610, 2611, 2612, 2613, 2614, 2615, 2616, 2617, 2618, 2619, 2620, 2621, 2622, 2623, 2624, 2625, 2626, 2627, 2628, 2629, 2630, 2631, 2632, 2633, 2634, 2635, 2636, 2637, 2638, 2639, 2640, 2641, 2642, 2643, 2644, 2645, 2646, 2647, 2648, 2649, 2650, 2651, 2652, 2653, 2654, 2655, 2656, 2657, 2658, 2659, 2660, 2661, 2662, 2663, 2664, 2665, 2666, 2667, 2668, 2669, 2670, 2671, 2672, 2673, 2674, 2675, 2676, 2677, 2678, 2679, 26

# Your quest is interstellar wealth and to hell with glory



The intense struggles before you, 8 million worlds await your exploitation. Unimaginable wealth is your destiny. If you can master the art of interstellar navigation, harness the tools at the pleasure of your mind, and reject the dusty space planes, forget the medals, forget the honors, forget the glory. As a member of the Federation of Free Traders you live for money and will probably die too.



## FEDERATION OF FREE TRADERS



ATARI ST/AMIGA  
**£29.99**



Screen shots from Atari ST version.  
NAVIGATION: PETER ANDREAS JENSEN  
COPYRIGHT: ANDREAS JENSEN  
Graphics supplied by: Redwood Ltd.,  
Alpha House, 100 Carver Road,  
Maidhead RG1 1YS. Tel: 0752 755125